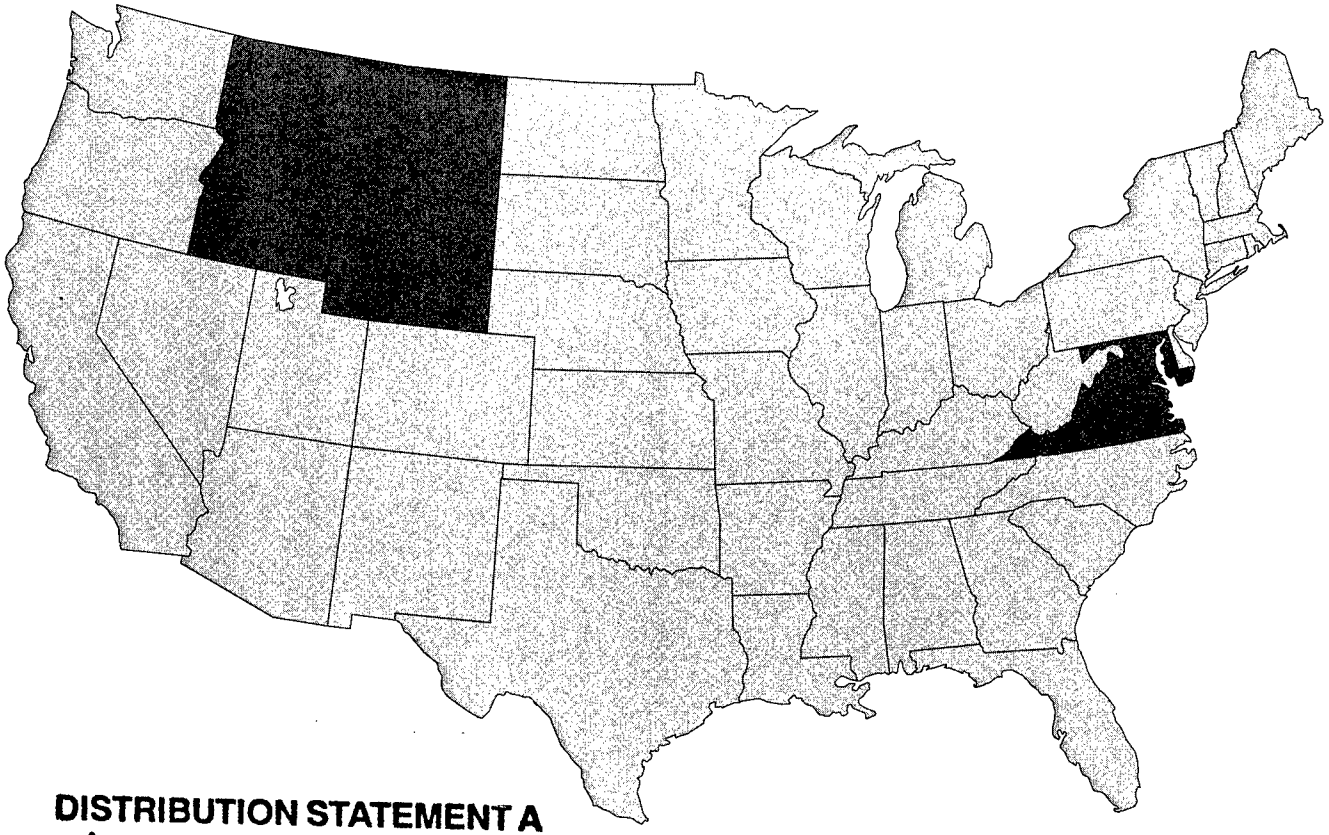
An Archaeological Curation-Needs Assessment for the Legacy Resource Management Program

Archaeological Curation-Needs Assessment
Technical Report No. 15



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At the request of the Legacy Resource Management Program, the U.S. Army Corps of Engineers Mandatory Center of Expertise for the Curation and Management of Archaeological Collections (MCX-CMAC), located at the St. Louis District, conducted a survey of archaeological collections and associated documentation generated from archaeological investigations conducted within the boundaries of military installations located in the states of Idaho, Maryland, Montana, Virginia, and Wyoming, which is the scope of this report. Pre-fieldwork and state site-file research began in the spring of 1994. Repository visits were conducted between July 1994 and February 1996. MCX-CMAC identified collections from 18 installations, totaling 700.9 cubic feet of artifacts and approximately 88.6 linear feet of associated documentation. Most collections require at least partial rehabilitation to comply with federal regulation 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections.

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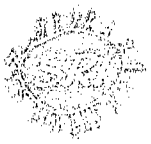

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U.S. Army Corps of Engineers, Baltimore District	USACE Baltimore District
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Virginia Commonwealth University Archaeological Research Center	VCUARC
Virginia Department of Historic Resources	VDHR
F. E. Warren Air Force Base	Warren AFB
College of William & Mary Center for Archaeological Research	WMCAR
Woodbridge Research Facilities	Woodbridge

Executive Summary

Problem

Federal archaeological collections are a valuable and nonrenewable national cultural resource. Curation of these materials, however, has been largely substandard or ignored for more than 50 years. Many of these priceless collections of our nation's legacy were placed in the attics, basements, and storage closets of an indefinite number of storage facilities across the United States. Additionally, many objects were illegally transported to Europe, where they remain today. The result has been a steady deterioration of these priceless objects. The improper care, and the subsequent deterioration of many of these collections, not only violates the laws under which they were recovered, but also prevents educational and scientific use. Valuable portions of our irreplaceable national heritage have been lost, and the considerable financial investment by the American public in archaeological recovery has been compromised.

Background

Department of Defense (DoD) installations are responsible for the management of archaeological and historical resources located on and recovered from their properties. As mandated by federal law, installations are required to ensure that all recovered archaeological materials and associated records are adequately curated in perpetuity. Unfortunately, funding shortfalls, lack of consistent national policy, and the magnitude of the problem have prevented full compliance.

Collections recovered from DoD installations are public property, the result of many years of archaeological research and the expenditure of millions of federal dollars. The DoD, as the landholding agency, is the party responsible for the perpetual care of these resources. Through the years, most collections have been stored free of charge by universities, museums, and contracted firms. Inadequate funding and failing facilities now seriously hinder these institutions' abilities to adequately care for collections.

In 1992, the Legacy Resource Management Program began funding the U.S. Army Corps of Engineers, St. Louis District, Mandatory Center of Expertise for the Curation and Management of Archaeological Collections (St. Louis District) to conduct a national inventory and assessment of archaeological collections recovered from active DoD installations. Fiscal Year (FY) 1994 funds were allocated for the investigation of all military installations located in Idaho, Maryland, Montana, Virginia, and Wyoming, which is the scope of this report. Prefieldwork began in summer 1994, and fieldwork began in spring 1995. Repository site visits were conducted in February, May, November, and December 1995, and in January and February 1996.

The project area includes all military installations in the states of Idaho, Maryland, Montana, Virginia, and Wyoming. Those installations (and subinstallations) with archaeological collections include, by state:

Maryland
- Aberdeen Proving Ground (Aberdeen)
- Adelphi Laboratory Center (Adelphi Labs)
  - Blossom Point Proving Ground (Blossom Point)
  - Harry Diamond Laboratories (HDL)
  - Woodbridge Research Facilities (Woodbridge)
- Bloodsworth Island Naval Reservation (Bloodsworth Island NR)
- Fort Detrick
- Fort George G. Meade (Fort Meade)

Virginia
- Fort A. P. Hill
- Fort Belvoir
  - Belvoir Research, Development and Engineering Center
  - Davison Aviation Command
  - Humphreys Engineer Center
- Fort Eustis
- Fort Lee
- Fort Monroe
- Fort Myer
- Fort Story
- Radford Army Ammunition Plant (Radford)
- Vint Hill Communications and Electronics Support Activity (Vint Hill)

Wyoming
- F. E. Warren Air Force Base (Warren AFB)

Note that Bloodsworth Island NR is a subinstallation of Little Creek Naval Amphibious Base (NAB), which is included in the Atlantic Navy report (Table 1).

Those installations within the project area but without collections include:

Idaho
- Idaho Falls Naval Administrative Unit
- Wilder Air Force Station

Maryland
- Annapolis Naval Radio Transmitting Station
- Army Publications Distribution Center
- Fort Holabird
- Fort Ritchie
  - Alternate Joint Communications Center/Site R
- Hydrographic/Topographic Center, Defense Mapping Agency
- National Naval Medical Center, Bethesda

Montana
- 99th Electronic Combat Range Group, Detachment 18 (SAC)

Virginia
- Armed Forces Staff College
  - Army Criminal Investigation Command
- Army Materiel Command Headquarters
  - Defense General Supply Center
  - Defense Mapping Agency
  - Defense National Stockpile Center
  - Henderson Hall
  - Naval Facilities Engineering Command HQ
  - Naval Sea Systems Command
- Naval Supply Systems Command
- The Pentagon
- Space & Naval Warfare Systems Command

However, several other curation-needs assessment projects overlap with installations in these states, and the subject installations are not included in this report. The overlapping projects include assessments for the U.S. Air Force's Air Combat Command (ACC) and Air Mobility Command, and the U.S. Navy's Atlantic Division. The overlapped installations are listed in Table 1, with the technical reports in which they are included.

Findings

Status of Physical Facilities

Repository Adequacy

Military collections examined in this study are currently stored at 26 different installations and repositories located in eight states. Because a few of these facilities maintain multiple storage locations, and each

Table 1.
Military Installations Investigated in Other St. Louis District Curation-Needs Assessments Projects

Installation (Subinstallation)	Project
Idaho	
Mountain Home AFB (Saylor Creek Air Force Range)	Air Combat Command[a]
Maryland	
Andrews AFB (Brandywine Receiver Station; Davidsonville Transmitter Station)	Air Mobility Command[b]
Bainbridge Naval Training Center	Engineering Field Activity (EFA) Chesapeake[c]
Cheltenham Naval Communications Detachment	EFA Chesapeake
NAWC, Aircraft Division, Patuxent River (Solomons Island Navy Recreation Center; St. Inigoes NESEA)	EFA Chesapeake
NSWC, Carderock Division, Bethesda (Annapolis Detachment)	EFA Chesapeake
NSWC, Indian Head Division	EFA Chesapeake
U.S. Naval Academy (Annapolis Naval Station)	EFA Chesapeake
Montana	
Malmstrom AFB	Air Mobility Command
Virginia	
Atlantic Division, Naval Facilities Engineering Command	LANTDIV[d]
Camp Elmore	LANTDIV
Camp Peary	LANTDIV
Fentress Naval Auxiliary Landing Field	LANTDIV
Fleet Combat Training Center, Atlantic, Dam Neck	LANTDIV
Fleet & Industrial Supply Center	LANTDIV
Fleet & Industrial Supply Center, Cheatham Annex	LANTDIV
Fleet Antisubmarine Warfare Training Center, Atlantic	LANTDIV
Langley AFB	ACC[e]
Little Creek NAB	LANTDIV
NSWC, Dahlgren Division (NSWC, White Oak Detachment [MD]; Wallops Island AEGIS Missile Center)	EFA Chesapeake
Newport News Supervisor of Shipbuilding, Conversion, and Repair	LANTDIV
Norfolk Fleet Training Center	LANTDIV
Norfolk Naval Air Station (NAS)	LANTDIV
Norfolk Naval Aviation Depot	LANTDIV
Norfolk Naval Base Complex	LANTDIV
Norfolk Naval Shipyard	LANTDIV
Norfolk Naval Station	LANTDIV

continued on next page

Table 1 (continued).

Installation (Subinstallation)	Project
Norfolk Navy Public Works Center	LANTDIV
Northwest Naval Security Group Activity	LANTDIV
Oceana NAS	LANTDIV
Portsmouth Naval Hospital	LANTDIV
Portsmouth Supervisor of Shipbuilding, Conversion, and Repair	LANTDIV
Quantico Marine Corps Combat Development Command	EFA Chesapeake
Shore Intermediate Maintenance Activity	LANTDIV
Training Command, U.S. Atlantic Fleet	LANTDIV
Yorktown Naval Weapons Station	LANTDIV

[a] *An Archaeological Curation-Needs Assessment for Headquarters Air Combat Command.* Eugene A. Marino. Archaeological Curation-Needs Assessment, Technical Report No. 10, Volume 2. U.S. Army Corps of Engineers, St. Louis District, Mandatory Center of Expertise for the Curation and Management of Archaeological Collections, 1997.

[b] *Air Mobility Command, Curation-Needs Assessment.* Natalie M. Drew. Archaeological Curation-Needs Assessment, Technical Report No. 6. U.S. Army Corps of Engineers, St. Louis District, Mandatory Center of Expertise for the Curation and Management of Archaeological Collections, 1995.

[c] U.S. Navy EFA Chesapeake. Archaeological Curation-Needs Assessment, Technical Report No. 17. U.S. Army Corps of Engineers, St. Louis District, Mandatory Center of Expertise for the Curation and Management of Archaeological Collections (report in progress).

[d] *An Archaeological Curation-Needs Assessment for U.S. Navy, Atlantic Division, Naval Facilities Engineering Command.* Mary J. Bade and Kenneth L. Shingleton, Jr. Archaeological Curation-Needs Assessment, Technical Report No. 14. U.S. Army Corps of Engineers, St. Louis District, Mandatory Center of Expertise for the Curation and Management of Archaeological Collections, 1999.

[e] *An Archaeological Curation-Needs Assessment for Headquarters Air Combat Command.* Natalie M. Drew. Archaeological Curation-Needs Assessment, Technical Report No. 10, Volume 1. U.S. Army Corps of Engineers, St. Louis District, Mandatory Center of Expertise for the Curation and Management of Archaeological Collections, 1996.

location was evaluated independently, the total number of storage locations visited by St. Louis District personnel was 34. These facilities can be separated into seven distinct types (see Chapter 36). Only two (6%) of the 34 storage locations approach all of the standards mandated by 36 CFR Part 79 (Curation of Federally-Owned and Administered Archeological Collections), a 1991 federal regulation that established minimum professional standards for the management and care of all federal archaeological collections. Twenty others (59%) exhibit varying levels of partial compliance with the major standards—proper environmental controls, security, pest management, and fire safety. Twelve (35%) do not approach any of these standards. Only five (56%) of the nine long-term curation facilities have full-time staff for the management of archaeological collections (long-term facilities include Fort A. P. Hill, Fort Monroe, Warren AFB, Fairfax County

Archaeological Survey, Fort Loudoun State Historic Area, Maryland Historical Trust, University of Delaware Center for Archaeological Research, Virginia Commonwealth University Archaeological Research Center, the Virginia Department of Historic Resources).

Repository Maintenance

Twenty-two (65%) of the 34 storage locations that were inspected receive regular maintenance. Eleven (32%) receive maintenance as needed. Many of the repositories store extraneous items such as field equipment, hazardous chemicals, and personal items in collections storage areas, an unacceptable practice in professional collections-management facilities.

Environmental Controls

Environmental monitoring and adequate environmental control—appropriate, stable temperatures and humidity, and adequate monitoring of both—are crucial for the long-term preservation of collections. Three (9%) of the 34 storage locations inspected contain heating, ventilating, and air conditioning (HVAC) systems that monitor and control both temperature and humidity. One facility is equipped with an HVAC system that does not monitor or control humidity. Six (18%) of the storage locations provide environmental controls (HVAC or air-conditioning and heating, and humidity monitoring and control) that meet federal standards. Twenty-six (76%) storage locations have air-conditioning, whereas 27 (79%) have heating. Six (18%), including three with HVAC systems, monitor and control humidity.

Security

A primary requirement for meeting federal standards is the presence of intrusion alarms. Thirteen (38%) storage locations are equipped with intrusion alarms wired to the local police department or a security company. All of the storage locations are secured with key or dead bolt locks or both; those with windows have window locks. Most facilities limit access to their collections. Although there were no documented cases of unauthorized entry linked with loss of military collections, the potential for this exists at several of the facilities examined.

Fire Detection and Suppression

Fire is a major hazard to any museum collection. Twenty-four storage locations (71%) provide adequate to superb fire detection. Of these 24, only 11 (46%) also have adequate fire-suppression systems; the

other 13 (54%) only have fire extinguishers, which are inadequate for fire suppression. Nine of the remaining storage locations have no detection measures, and fire extinguishers as their only suppression measure and one location has a smoke detector for fire detection, but no fire-suppression system in place. Adequate fire detection does no good without adequate fire suppression, with the reverse also true. In addition, fire-detection and -suppression systems must be able to operate after normal business hours, which some systems (e.g., manual fire alarms) cannot do.

Pest Management

A professional pest-management program is crucial to the long-term survival of many archaeological collections and associated records. Thirty (88%) out of 34 storage locations control pests as needed or on a regularly scheduled plan (i.e., annually). Only four of these 30 storage locations have implemented integrated pest management programs that include monitoring and control measures. Four (12%) of the 34 storage locations take no precautions against pests whatsoever.

Status of Artifacts

Military artifact collections from the installations discussed in this report consist of 700.9 ft^3 of materials recovered from 18 military installations. The collections include prehistoric and historical-period materials. Most of the collections have not been properly cleaned, labeled, or packaged.

Overall, primary containers (boxes that house a group of artifacts) consist of acidic-cardboard boxes or acid-free-cardboard boxes of varying sizes (most approximately 1 ft^3), with flap or telescoping lids. Many containers are overpacked and coated with dust. However, all boxes bear some sort of label, if only rudimentary.

Within the primary containers, 55 percent of the collections (by volume) are stored in archival-quality, zip-lock polyethylene bags. Twenty-two percent are stored loose within their primary containers, without secondary containers. For the remainder of the collections, secondary containers (the largest receptacles within the primary containers) consist of acidic-paper bags (7%), nonarchival plastic bags (6%), acid-free-construction-paper dividers (4%), acidic-cardboard boxes (2%), glass mason jars (1%), plastic cases (1%), and wood cases (1%). Other secondary-container types total approximately 1 percent, and include glass vials, plastic film containers, newspaper, manila envelopes, and aluminum foil. Forty-five percent of the collections are stored in containers that are unacceptable for museum storage. Most secondary containers were labeled directly or with interior paper tags, although adhesive labels were also noted.

Major prehistoric material classes (by volume) encountered include lithics (22%), ceramics (2%), faunal remains (3%), shell (2%), and soil samples (1%). Other material classes total 2 percent (by volume), and include human skeletal remains, worked bone and shell, botanical remains, flotation samples, and ^{14}C samples. Principal historical-period material classes examined include glass (29%), metal (17%), ceramics (13%), and brick (7%). Other historical-period material classes total 2 percent (by volume), and include leather, rubber, firearm flints, paper, charcoal, marble, coal, Styrofoam, wood, buttons, and plastic.

Status of Human Skeletal Remains

At present, all possibly human skeletal remains recovered from military installations in the study area are being curated at three facilities. Fort Loudoun State Historic Area (FLSHA), Tennessee, is curating human skeletal remains recovered from Radford that include a minimum of two individuals. Fort A. P. Hill archaeological collections include one possibly human bone fragment. Harford County Archaeological Society (HCAS), Maryland, is curating at least 1 ft^3 of human skeletal remains recovered from Aberdeen in the same containers as remains from non-Aberdeen lands. The minimum number of individuals for the Aberdeen human skeletal remains is unknown because of the mixed and unprovenienced storage of the bones. All three possibly human skeletal remains collections should be examined thoroughly by a qualified physical anthropologist. In addition, complete rehabilitation (i.e., reboxing, rebagging, and labeling) should be carried out to stabilize the human skeletal remains, and a complete inventory must be generated to comply with the Native American Graves Protection and Repatriation Act (NAGPRA; P.L. 101-601).

Status of Documentation

The military-collections records encompass 88.6 linear feet and include paper, photographic, map, and draft-report records. In addition, the assessment team located multiple project reports (most stored at state repositories) that document archaeological work at reservations and in regions around and including Indian lands.

Professional-quality archival practices were noted at only one of the storage locations visited. In many cases, paper records have not been housed in acid-free folders, photographs have not been isolated and stored in chemically inert sleeves, and large-scale maps have not been stored flat in map cases.

In only a few instances did a set of project documentation appear to exist in its entirety at the facility with the collection. Project documentation is more often than not fragmentary or nonexistent. This could be because collections managers and archaeologists in the past may not have considered associated documentation a part of their

curatorial responsibilities, or records may have been produced and then lost on the way to their final storage area. It is also possible that in some cases records were never produced for some of the projects. Regardless of the reasons, the result is that records for many of the collections cannot be located.

Status of Repository Management Controls

Seven (78%) of the nine long-term curation facilities have accession records for the collections in their care. A written record of where collections are located within the facility is available at six (67%) of the facilities. No facility has fully inventoried the collections in its care, but all have partially inventoried the collections or are in the process of carrying out this task. Basic policy and procedure statements for artifact curation, inventories, records management, and deaccessioning exist for four of the facilities. The St. Louis District assessment team noted that six (67%) of the long-term curation facilities have formal loan policies. Seven (78%) have minimum standards for the acceptance of collections. Five (56%) of the facilities have guidelines for field-curation procedures to be used for archaeological materials. No facility has a published guide to the archaeological collections in its care. Eight (89%) of the long-term facilities employ some form of computerized database management for the collections in their care, although some of these use word-processing programs or are still developing the database system. Given the above, it is evident that the collections are at risk, and in most cases are not being properly cared for under the guidelines of 36 CFR Part 79.

Corrective Actions

A number of corrective actions are necessary to bring the military collections, and those facilities housing them, into compliance with 36 CFR Part 79. General recommendations include the following.

1. Bring together all collections into one regionally based, federally owned or leased repository constructed specifically for the curation and long-term management of archaeological collections, or distribute collections into existing facilities in their state or territory of origin and spend requisite funds to upgrade them to meet federal curation standards.

2. Develop cooperative agreements with other agencies to share the costs of constructing structures and rehabilitating collections.

3. Rehabilitate existing collections by inventorying and cataloging all artifact collections to standards consistent with those of a professional museum, and reboxing and rebagging collections in archival-quality containers.

4. Develop and implement uniform inventory procedures.

5. Develop and implement a formal archives-management program.

These corrective measures, if carried out, will permit military installations to meet minimum federal requirements for the adequate long-term curation of archaeological collections. By adopting this approach, the military has the opportunity to implement a curation program that will serve its needs well into the future.

Conclusions

It may not be possible to achieve each recommendation immediately. However, because the collections are deteriorating in their current storage environments and there is no long-term, consistent management plan for the proper curation of archaeological collections and associated records, action is necessary. These federal collections represent a nonrenewable resource, and if not properly cared for soon will forever lose their educational and research value and potential. Any progress will ensure that these collections will be more adequately preserved than is currently the case, and that they will be useful to future generations.

Acknowledgments

The entire staff of the St. Louis District contributed to the successful completion of this project for the Legacy Resource Management Program. Special thanks is extended to Mary J. Bade, now at Moundville, Alabama, for her efforts toward organizing the fieldwork and establishing standards early in the project. At the installations and repositories visited by St. Louis District staff, we found all staff members generous with their time and assistance. We wish to offer our gratitude to the following list of individuals, who were all very helpful.

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Evelyn Peyton

Fort Belvoir, Virginia

James Gregory
Art Miller

Fort Detrick, Maryland

Dr. Henry Erbes
John Bennett

Fort George G. Meade, Maryland

William Harmeyer

Fort Loudoun State Historic Area, Vonore, Tennessee

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1

Introduction

U.S. military installations located in Maryland, Virginia, and Wyoming are responsible for archaeological artifact collections and accompanying documentation (hereafter referred to as archaeological collections) stored in 26 facilities in eight different states. Military installations located in Idaho and Montana were investigated and reported on in separate curation-needs assessment reports, which are outlined in the executive summary. The responsibility for archaeological collections is mandated through numerous legislative enactments, including the Antiquities Act of 1906 (P.L. 59-209), the Historic Sites Act of 1935 (P.L. 74-292), the Reservoir Salvage Act of 1960 (P.L. 86-523), the National Historic Preservation Act of 1966 (P.L. 89-665), and the Archaeological Resources Protection Act of 1979 (P.L. 96-95). Executive Order 11593 (U.S. Code 1971) and amendments to the National Historic Preservation Act in 1980 provide additional protection for these resources. The implementing regulation for securing the preservation of archaeological collections is 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections. Additionally, the U.S. Army Corps of Engineers (USACE) possesses strict standards for Corps curation of archaeological materials, the only federal agency to do so. ER 1130-2-433, which was implemented in April 1991, serves as a standard for long-term archaeological curation.

NAGPRA was enacted in 1991 to identify federal holdings of Native American human skeletal remains, funerary objects, sacred objects, and objects of cultural patrimony. In addition, NAGPRA mandates that federal agencies reach agreements with Native American tribes and Native Hawaiian organizations on the repatriation or disposition of these remains and objects. All federal agencies are required to meet mandated deadlines for compliance with NAGPRA. By November 16, 1993, a summary of unassociated funerary objects, sacred objects, and objects of cultural patrimony was to be completed. An inventory of human skeletal remains and associated funerary objects was to be completed by November 15, 1995.

As the first step in complying with 36 CFR Part 79 and NAGPRA, the Legacy Resource Management Program began providing funds to the USACE in FY 1992 for the purpose of inventorying archaeological collections recovered from active DoD installations across the nation. Funding was provided in FYs 1992 and 1993 for the complete investigation of installations in California, Oregon, and Washington. Funding for FY 1994 called for the complete investigation of installations in Idaho, Maryland, Montana, Virginia, and Wyoming. The Legacy Resource Management Program was to receive a general inventory of collections, which would provide a firm estimation of the magnitude of curation needs. In addition, collections managers at storage facilities and cultural resource managers at installations would receive a plan addressing their specific curation needs.

The scope of work outlines the following services:

1. Provide professional and technical services to the Legacy Resource Management Program for the inspection and inventory of archaeological collections in selected repositories.

2. Provide a final report detailing the results of the inspections and evaluations, and addressing the following:

a. physical description of all repository facilities;

b. physical description of all recovered-artifact collections;

c. physical description of all associated documentation collections; and

d. recommendations for compliance with the requirements of 36 CFR Part 79.

3. Provide a master bibliography of reports associated with the military collections.

Methods

Twenty-six facilities were evaluated in the course of this curation-needs assessment. Among the facilities were one private museum, four university laboratories or curation facilities, four state or county curation facilities, seven military installations, one private archaeological society, one government agency, and 11 contract firms. The following schedule outlines the facilities visited, and the order and dates of the site visits.

- Aberdeen, Maryland: February 9, 1995
- Warren AFB, Wyoming: February 28–29, 1996
- Fort A. P. Hill, Virginia: May 11, 1995
- Fort Belvoir, Virginia: November 13, 1995
- Fort Detrick, Maryland: February 7, 1995
- Fort Meade, Maryland: December 8, 1995
- Fort Monroe, Virginia: May 2, 1995
- Fairfax County Archaeological Survey (FCAS), Virginia: November 7, 1995
- Fort Loudoun State Historic Area (FLSHA), Tennessee: November 15, 1995
- Foster Wheeler Environmental Corp. (Foster Wheeler), East Orange, New Jersey: December 5, 1995
- Geo-Recon International (GRI), Seattle, Washington: December 13, 1995
- Gray & Pape (G&P), Richmond, Virginia: May 4, 1995
- Harford County Archaeological Society (HCAS), Maryland: January 24, 1996
- Hunter Research Associates (HRA), Trenton, New Jersey: December 6, 1995
- James River Institute for Archaeology (JRIA), Williamsburg, Virginia: July 26, 1994
- John Milner & Associates (Milner), Alexandria, Virginia: November 9, 1995
- Maryland Historical Trust (MHT), Crownsville: February 16–17, 1995
- Mid-Atlantic Archaeological Research (MAAR), Williamsburg, Virginia: July 22, 1994
- R. Christopher Goodwin & Associates (Goodwin), Frederick, Maryland: February 7, 1995
- SouthArc, Gainesville, Florida: January 26, 1996
- Thunderbird Archaeological Associates (TAA), Woodstock, Virginia: December 13, 1995
- University of Delaware Center for Archaeological Research (UDCAR), Newark: January 23, 1996
- U.S. Army Corps of Engineers, Baltimore District (USACE Baltimore District), Maryland: February 8, 1995, and December 11, 1995
- Virginia Commonwealth University Archaeological Research Center (VCUARC), Richmond: May 8, 1995
- Virginia Department of Historic Resources (VDHR), Richmond: May 9–10, 1995
- College of William & Mary Center for Archaeological Research (WMCAR), Williamsburg, Virginia: May 3, 1995

Prior to these visits, site-file searches were conducted at the state historic preservation offices (SHPOs) and/or site-file facilities for Idaho, Maryland, Montana, Virginia, and Wyoming.

Except for fieldwork, much of the project was conducted in-house. This work consisted of prefieldwork, fieldwork planning, and report writing. The following schedule outlines the course of activities.

- April–May 1994: prefieldwork
- June 5–15, 1994: state site-file visits, Maryland and Virginia

- November 7–11, 1994: state site-file visits, Idaho and Montana
- February 27, 1996: state site-file visits, Wyoming
- June 1994: fieldwork planning
- July 1994–February 1996: fieldwork
- July 1994–February 1996: fieldwork planning and draft report preparation and writing
- February–May 1996: final draft report preparation and writing

Prefieldwork Investigation

Assessment of each facility's compliance with 36 CFR Part 79 included the following seven items.

1. National Park Service (NPS) National Archeological Database (NADB) and general records searches were performed for each installation.

2. Topographic maps of each installation were acquired for the purpose of establishing base boundaries and a listing of maps required for the site-file searches.

3. Site files at respective state archaeology and SHPOs were searched to determine the sites located within installation boundaries, and to determine where collections might be located.

4. During site-file searches, a database was compiled of all fieldwork reports filed at the state repositories.

5. All institutions and individuals likely to have knowledge about the collections were contacted by telephone.

6. A list was compiled of all agencies, firms, and institutions associated with the recovery or curation of materials belonging to the U.S. military in the project area.

7. Agencies, firms, and institutions were contacted by telephone for information regarding the curation of military collections. These telephone conversations led to development of the list of repositories visited during the project.

Field Inspection and Assessment of Repositories and Collections

Assessment of the archaeological collections and the repositories that house them included the following four major tasks.

1. A survey questionnaire soliciting information on repositories, artifact collections, and associated documentation was completed for every facility involved with the curation of military archaeological collections.

2. The structures were evaluated to determine whether or not the facility approached compliance with the requirements for repositories specified in 36 CFR Part 79. Forms address topics such as structural adequacy, space utilization, environmental controls, security, fire detection and suppression, pest management, and utilities. Data was gathered both by observation and through discussion with collections and facilities managers.

3. All documentation was examined to determine what types of records were present and in what quantity and condition. Types of documentation include project and site reports, administrative files, field records, curation records, and photographic records. For each type of document, the amount (in linear inches), physical condition of the containers and the records, and the overall condition of the storage environment was noted. The determination of whether or not the facility is in compliance with the archives-management requirements specified in 36 CFR Part 79 was based on this research.

4. Artifact collections were examined and evaluated as to their condition and compliance with 36 CFR Part 79. Assessment included examination of (1) the condition of primary and secondary containers, (2) the extent of container labeling, (3) the extent of laboratory processing, (4) the material classes included in each collection, and (5) the condition of and approximate minimum number of individuals represented by any human skeletal remains. Primary containers—e.g., acidic- or acid-free-cardboard boxes—are the receptacles that house an individual

artifact or group of artifacts. Secondary containers—e.g., acidic-paper bags; plastic sandwich bags; archival or nonarchival, zip-lock plastic bags; glass jars; film vials; aluminum foil; newspaper; packing materials; or small acidic- or acid-free-cardboard boxes—are the largest receptacles for artifacts within the primary containers.

NAGPRA-Compliance Assessment

To satisfy the requirements of NAGPRA, the following four tasks must be performed at each repository holding military collections.

1. Search collections records to identify the accession and catalog numbers and the location of human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony.

2. Physically inspect storage containers to identify human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony.

3. Conduct an analysis of human skeletal remains that includes:

a. a detailed skeletal inventory listing elements present, their completeness, and their condition;

b. measurements of long bones and crania sufficient to provide basic description of physical characteristics, stature, and morphology of the human skeletal remains;

c. estimates of age and gender; and

d. observations of any pathological conditions, cultural modifications, and evidence of life activities and trauma that might provide evidence of the cultural affiliation of the human skeletal remains or the context from which they were recovered.

4. Produce summary and inventory reports for each repository.

Report Preparation

A written report detailing the results of the curation-needs assessment is required. The report should include

1. estimates of the sizes of collections and their condition, and descriptions of the curation facilities; and

2. recommendations for the rehabilitation of the facilities and the collections, according to the federal standards established in 36 CFR Part 79.

Chapter Synopsis

Chapters 2–16 provide a detailed examination of the state of archaeological collections under the jurisdiction of individual military installations. Chapters 17–35 consist of non-military repository summaries, referenced in the relevant installation chapters. Chapter 36 outlines the overall findings of the project. Final recommendations for the project are provided in Chapter 37. Each chapter contains a summary for the repository discussed in that chapter, a detailed examination of collections storage areas and collections, and recommendations for improved care of the collections. Chapters 2–16 also contain bibliographies of archaeological work conducted on the installation. Installations and project reports for which no collections were located are listed in an appendix.

Twenty-six installations and repositories (museums, universities, state agencies, county agencies, federal agencies, private societies, and contract firms) were visited for this project. Collections are stored at a total of 34 storage locations associated with these 26 facilities. Two of the 34 storage locations (6%) fulfill all of the standards mandated by 36 CFR Part 79 for curating federally owned archaeological collections. Twenty (59%) approach approximately one-half or more of the standards. Five of the nine long-term curation facilities (56%) employ full-time personnel for the curation of archaeological collections.

Unfortunately, the conditions of the facilities described in this report reflect the standard of care for archaeological collections across the nation. Lack of funding and lack of consistent national policy, coupled with the sheer magnitude of collections across the country, have hindered compliance with federal regulations. Without a national strategy and attention to the existing deficiencies, archaeological collections are in danger of continuing deterioration. However, with some commitment, we can preserve our rich national heritage.

2

Aberdeen Proving Ground

Maryland

Installation Summary

Volume of Artifact Collections: 54.3 ft^3 (including 1 ft^3 of human skeletal remains)

On Base: 22.3 ft^3

Off Base: HCAS, 26 ft^3 (see Chapter 23); Goodwin, 4.8 ft^3 (see Chapter 21); MHT, 1.2 ft^3 (see Chapter 26)

Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 1.75 linear feet (21 linear inches)

On Base: 14.5 linear inches

Off Base: Goodwin, 3.5 linear inches (see Chapter 21); HCAS, 3 linear inches (see Chapter 23)

Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: 1 ft^3

On Base: None

Off Base: 1 ft^3 (HCAS; see Chapter 23)

Status of Curation Funding: Curation activities are not funded at this installation at this time.

Date of Visit: February 9, 1995

Point of Contact: Reed MacMillan

Aberdeen was established in 1917 as the home of the Army Ordnance Corps. In July 1971, the former Edgewood Arsenal merged with Aberdeen and that section of the installation is still referred to as the Edgewood area, while the remainder of the post is referred to as the Aberdeen area.

In June 1994, St. Louis District personnel performed background archaeological research at MHT that included a review of all pertinent archaeological site forms, reports, and manuscripts associated with Aberdeen. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations conducted by installation personnel and by Goodwin. Archaeological collections are currently housed in four Maryland facilities, including the installation.

Aberdeen is located northeast of Baltimore and is the headquarters of the Army's Test and Evaluation Command. The installation encompasses approximately 72,500 acres, including the former Edgewood Arsenal—a former testing center for chemical weapons—and a portion of Chesapeake Bay. Aberdeen is now the Army's primary research center for weapons and weapons systems.

Aberdeen is currently curating 22.3 ft^3 of artifacts and 1.2 linear feet of documentation resulting from archaeological work conducted on

Table 2. Summary, by Volume, of Material Classes Present in Aberdeen Collections at the Installation

Material Class	%
Prehistoric	
Lithics	36
Shell	6
Faunal remains	3
Other[a]	1
Historical-period	
Glass	19
Metal	15
Ceramics	13
Brick	7
Total	100

[a] "Other" includes soil and ^{14}C samples.

the installation. The artifact collection includes materials from both prehistoric and historical-period contexts (Table 2). Lithics is the most abundant prehistoric material class; glass the most abundant historical-period class. Aberdeen is not currently curating human skeletal remains associated with archaeological research projects.

The Aberdeen Cultural and Natural Resource Visitor/Learning Center (the center) houses environmental-protection staff and cultural and natural resources collections from the installation. The center is located in the Malcolm Mitchell House, a Victorian residence constructed in 1905 (Figure 1). The collections storage area is located in a room within the attic of the structure.

Assessment

Structural Adequacy

The Malcolm Mitchell House has been renovated to contain offices and exhibit areas managed by the Directorate of Safety, Health, and Environment. The foundation of the building is granite, the roof is imitation-slate tile, and exterior walls are Victorian-style wood clapboard. There are three floors aboveground and one belowground. Interior and exterior renovations are numerous. Walls and ceilings have been repaired and repainted. The gutter system, front porch ceiling, front porch pillars, and floor joints are all either additions or major modifications. The current roof is 15 years old. Overall, the structure is solid, with no cracks or leaks. There are multiple windows in the structure,

Figure 1. Exterior of the repository on Aberdeen.

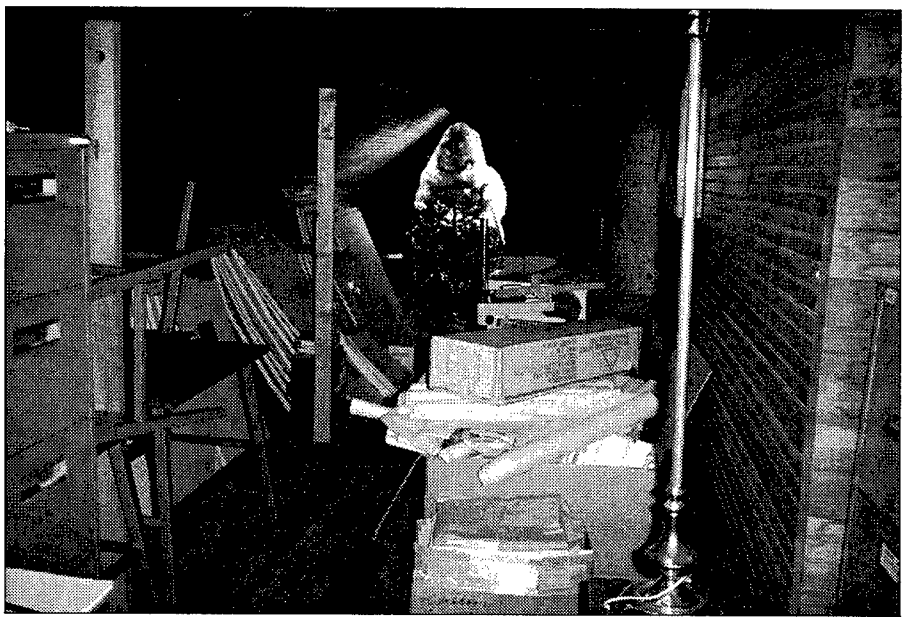

Figure 2. The collections storage area is located in the attic of the Aberdeen Cultural and Natural Resource Visitor/Learning Center.

with window frames constructed of wood. There is no evidence of window leaks, and most windows appear to have been renovated. Windows are equipped with shades.

The center has almost 5,000 ft^2 of floor space, with approximately half devoted to administrative space. The center contains offices, exhibit areas, and temporary artifact storage areas. The floors, ceiling, and interior walls of the collections storage area are made of wood. There is one round window, with a diameter of 2 feet. The window has a wood frame and is not equipped with a shade. There is one wood-panel door leading to the remainder of the repository. The collections storage area measures approximately 250 ft^2, and is filled to approximately 80 percent capacity with archaeological materials and miscellaneous items (general storage) (Figure 2).

Environmental Controls

The center uses radiant heat, window air conditioners, and fans for environmental control. There is no humidity-monitoring or -control system, nor a dust-filtering system. Maintenance and cleaning are contracted through Aberdeen, and are conducted on a weekly basis. There are no specific environmental controls in the collections storage area. Lighting is provided by incandescent bulbs, without ultraviolet (UV) filters.

Pest Management

The center does not have an integrated pest-management system. Precautions against insects and rodents are taken on an as-needed basis. Many dead flies were noted within the collections storage area, on the floor near the window.

Security

The center has an intrusion alarm that is wired into the military police department. Motion detectors on the main doors, offices, and hallways are wired into this security system. In addition, there are key locks on doors and simple locks on windows. Currently, there is no evidence of unauthorized entry, but the house was broken into on Armed Forces Day, 1994, and computers and cameras were stolen. There are no special security measures for the collections storage room.

Fire Detection and Suppression

The center is not equipped with a fire-detection system. Fire-suppression equipment consists of

one fire extinguisher located on each floor. There is no fire extinguisher in the collections storage area.

Artifact Storage

Storage Units

Nine cardboard boxes containing a total of 12.6 ft^3 of artifacts are stored on top of metal file cabinets within the collections storage area. Boxes are stacked two and three high. In addition to these boxes, there are approximately three large file cabinet drawers housing 9.7 ft^3 of artifacts (Figure 3).

Primary Containers

A total volume of 22.3 ft^3 of artifacts is housed in primary containers consisting of acid-free Hollinger boxes with telescoping lids and file cabinet drawers. Each Hollinger box is equipped with a zip-lock plastic bag glued to the end of the box, in which is a preprinted, acid-free-paper tag. Recorded on the tag is the project name, site numbers, bag numbers, contents, and a box number.

Three of the drawers in a five-drawer file cabinet contain archaeological materials. These artifacts are those that have been recovered by individuals through the years at Aberdeen, not as part of any organized or funded project. Drawers are labeled in marker on a yellow, acidic-paper tag enclosed in a metal tag holder. Label information consists of "C," "D," and "D" for each of the drawers, respectively.

Secondary Containers

All secondary containers consist of zip-lock, 4- and 6-mil polyethylene bags. Labels are written directly on the bags in marker, and include site number, field site number, and provenience. Bags contained in the file cabinet drawers are labeled directly in marker with an installation-area number (e.g., C-16). Some of these bags have interior, acidic-paper tags with provenience information written on them. Secondary containers may also contain multiple tertiary containers of archival or nonarchival quality.

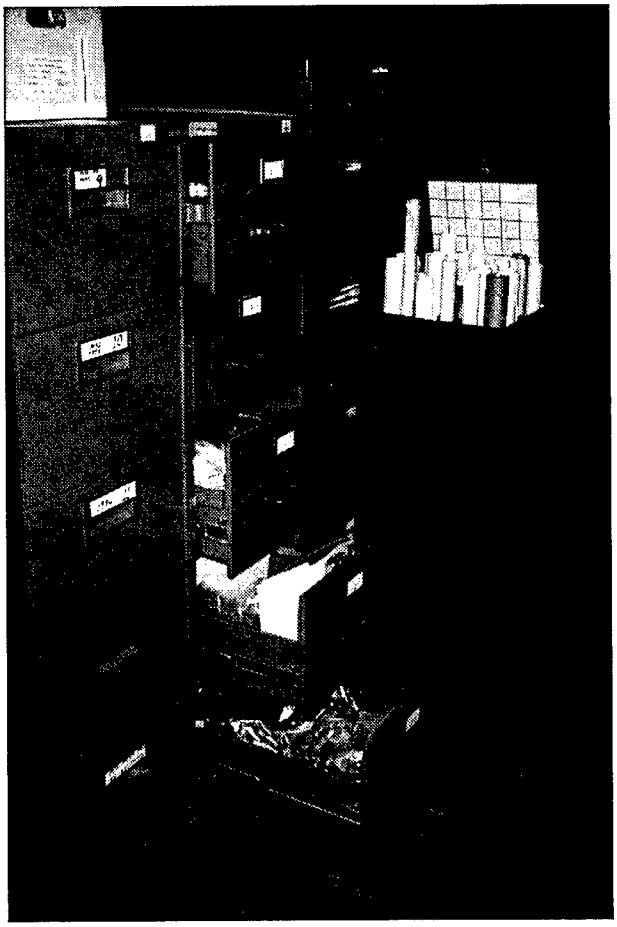

Figure 3. Some artifacts found on Aberdeen are stored in the drawers of metal file cabinets.

Laboratory Processing and Labeling

Approximately 30 percent of the artifacts are directly labeled, with site number or field site number. All artifacts have been cleaned, and approximately 95 percent have been sorted by material class.

Human Skeletal Remains

Aberdeen is not curating any human skeletal remains recovered from archaeological projects on the installation.

Records Storage

Records are stored in acid-free Hollinger boxes, in several cases within the same box as the artifacts.

These boxes are stored on top of metal file cabinets, with the artifacts. There is a total of 1.2 linear feet of documentation associated with archaeological investigations on Aberdeen.

Paper Records

There are 12.5 linear inches of paper records, including excavation records, field notes, and artifact inventories. Primary containers consist of acid-free Hollinger boxes, labeled directly in marker with project, site number, contents, and box number (Figure 4). Secondary containers consist of acid-free envelopes and vinyl three-ring binders. Some paper stacks not enclosed in secondary containers are bound by metal clips, but are not labeled. Acid-free envelopes are not labeled. Vinyl binders are labeled with rub-on letters, covered with tape. Label information consists of project, contents, and copy number. Records are arranged by document type.

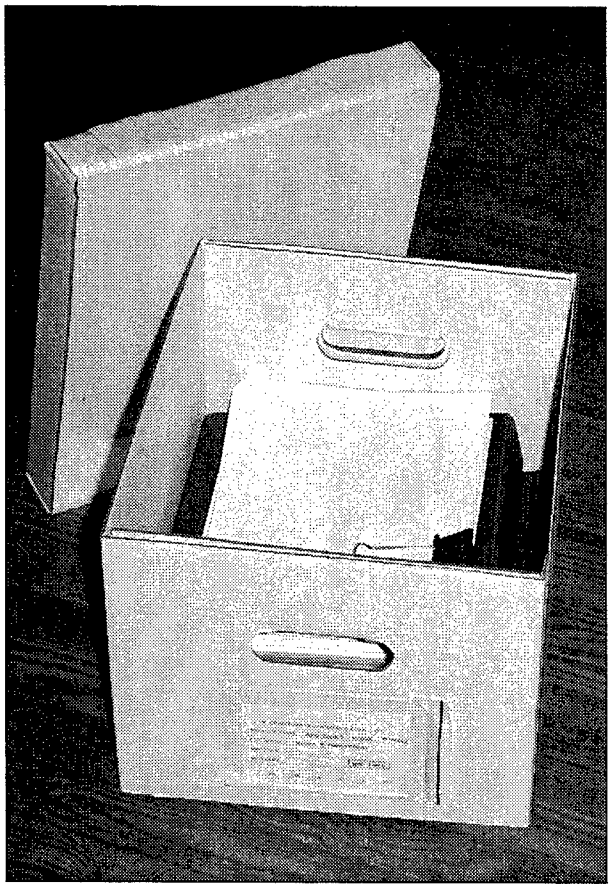

Figure 4. Paper records are stored in cardboard boxes on Aberdeen.

Photographic Records

There are 2 linear inches of photographic records, all stored with the paper records. These include black-and-white prints, slides, and contact sheets. All are labeled in marker with installation name, roll number, and exposure number.

Collections-Management Standards

Registration Procedures

Accession Files

Materials are given a catalog number as they arrive at the center.

Location Identification

The location of the collections within the repository is not identified in the catalog files.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

No guide to the collections has been published.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used.

Computerized Database Management

The dBASE III program is used to catalog artifact collections. Computer records are stored locally on floppy disks, and backups are made every six months. The computer system is not attached to a network.

Written Policies and Procedures

Minimum Standards for Acceptance

No formal minimum standards of acceptance for archaeological collections are in place.

Curation Policy

No formal curation policy has been established.

Records-Management Policy

No formal records-management policy has been established.

Field-Curation Procedures

The field-curation guidelines are established by a management overseer.

Loan Policy

There are no formal loan procedures in place.

Deaccessioning Policy

No formal deaccessioning policy has been established.

Inventory Policy

There is no inventory policy in place.

Latest Collection Inventory

The collections were last inventoried in 1994.

Curation Personnel

There is no full-time curator for archaeological materials. Reed MacMillan can devote only approximately 1 percent of his time to curation activities.

Curation Financing

Curation is not financed. If curation is to be continued at the center, substantial start-up costs for labor and materials would be required, as would salary for a full-time curator.

Access to Collections

Access to the collections is controlled by MacMillan. Outside researchers are allowed access to the collections under supervision, but they must first write to the commander.

Future Plans

For the short term, MacMillan is attempting to acquire a storage shed for all the nonarchaeological materials currently housed in the collections storage area. For the long term, he is attempting to transform all floors of the center into display areas, laboratories, and artifact-holding areas; only one floor is currently dedicated to these activities.

Comments

1. There are no humidity-monitoring or -control devices for the repository. There are no environmental controls in the collections storage area.

2. Internal access to the collections is not monitored; there are no locks on the door to the collections storage area. There is an alarm system wired to the military police.

3. There is no integrated pest-management program in place. The floor of the collections storage area near the window was covered with dead flies during the site visit.

4. There is no fire-detection system for the repository. The only type of fire-suppression equipment present is fire extinguishers, and none is located in the collections storage area.

5. Artifacts stored in Hollinger boxes have proper and labeled secondary containers, but very few artifacts are directly labeled. Artifacts stored in the file cabinet have been bagged in archival plastic, but have not been properly processed.

6. Associated documentation is sometimes stored with artifacts in the same primary containers.

Recommendations

1. Install an HVAC system. If not possible, purchase hygrothermographs or sling psychrometers to monitor humidity and commercial dehumidifiers to control humidity.

2. Remove artifacts and documentation and place them in a room with proper heating and air-conditioning, and proper security measures such as door locks and dead bolts.

3. Install a fire-detection system that is wired into the local fire department. Install a sprinkler system for fire suppression. Ensure that a fire extinguisher is located in the collections storage area.

4. Begin an integrated pest-management program that includes regular monitoring and control.

5. Remove artifacts from the file drawers and place them in acid-free Hollinger boxes. Label the boxes with as much provenience information as possible.

6. Remove documentation from the primary containers housing the artifacts, and place in separate acid-free Hollinger boxes. Produce duplicate copies of records and archivally store these in a separate, fireproof, secure location.

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3

Adelphi Laboratory Center

Adelphi, Maryland

Installation Summary

Volume of Artifact Collections: 22.2 ft^3

On Base: None

Off Base: USACE Baltimore District, 16.0 ft^3 (see Chapter 31); UDCAR, 3.6 ft^3 (see Chapter 32); Foster Wheeler, 1.4 ft^3 (see Chapter 19); MHT, 1.2 ft^3 (see Chapter 26)

Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 4.1 linear feet (49 linear inches)

On Base: None

Off Base: GRI, 15.75 linear inches (see Chapter 20); Foster Wheeler, 14 linear inches (see Chapter 19); HRA, 9 linear inches (see Chapter 24); TAA, 7.5 linear inches (see Chapter 30); USACE Baltimore District, 1.5 linear inches (see Chapter 31); UDCAR, 1.25 linear inches (see Chapter 32)

Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Officially established in 1989, Adelphi Labs is where the Harry Diamond Laboratories (HDL) shared facilities with the headquarters of the Electronics Research and Development Command (ERADCOM) from 1978 to 1985. In 1985, ERADCOM was deactivated and the Army Laboratory Command (LABCOM) was activated. In 1992, LABCOM was deactivated and the Army Research Laboratory (ARL) was activated. Adelphi Labs provides an identity for the site of ARL. The world's largest full-threat gamma-radiation simulator, Aurora, is operated by ARL under the Defense Nuclear Agency. ARL controls the test range in Blossom Point Proving Ground (Blossom Point) and the Woodbridge Research Facilities (Woodbridge).

In June 1994, St. Louis District personnel performed background archaeological research at MHT that included a review of all pertinent archaeological site forms, reports, and manuscripts for Adelphi Labs, including HDL, Blossom Point, and Woodbridge. Archaeological sites have been recorded at Adelphi Labs and its satellite facilities, and a number of reports have been generated as the result of archaeological investigations associated with Adelphi Labs. Archaeological collections are currently housed in seven repositories in five states. Because no Adelphi Labs archaeological collections are being curated at the installation, collections-management standards for the base will not be addressed.

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4

Bloodsworth Island Naval Reservation

Dorchester County, Maryland

Installation Summary

Volume of Artifact Collections: 4.8 ft^3
On Base: None
Off Base: MHT, 4.8 ft^3 (see Chapter 26)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 1.1 linear feet (13.5 linear inches)
On Base: None
Off Base: GRI, 13.5 linear inches (see Chapter 20)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Bloodsworth Island NR is a satellite military installation under the command of Little Creek NAB, Norfolk, Virginia, and is used for weapons training. However, Bloodsworth Island NR was not included in the same report with Little Creek NAB (see Table 1). Several unsuccessful attempts were made to contact the facility.

In June 1994, St. Louis District personnel performed background archaeological research at MHT that included a review of all pertinent archaeological site forms, reports, and manuscripts for Bloodsworth Island NR. Archaeological sites have been recorded on the reservation and a few reports have been generated as the result of these archaeological investigations. Archaeological artifact and records collections are currently housed in two repositories in two states. Because no Bloodsworth Island NR archaeological collections are being curated at the installation, collections-management standards for the base will not be addressed.

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5

Fort Belvoir

Virginia

Installation Summary

Volume of Artifact Collections: 179.4 ft^3
On Base: None
Off Base: FCAS, 171 ft^3 (see Chapter 17); TAA, 4.4 ft^3 (see Chapter 30); Milner, 2.9 ft^3 (see Chapter 28); VCUARC, 1.1 ft^3 (see Chapter 33)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 14.4 linear feet (172.5 linear inches)
On Base: 55 linear inches
Off Base: FCAS, 79.25 linear inches (see Chapter 17); Milner, 5.0 linear inches (see Chapter 28); MAAR, 24.75 linear inches (see Chapter 27); TAA, 7.5 linear inches (see Chapter 30); VCUARC, 0.5 linear inch (see Chapter 33); VDHR, 0.5 linear inch (see Chapter 34)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: No funds are allocated for curation activities.

Date of Visit: November 13, 1995

Points of Contact: Art Miller, Facilities Manager, and James Gregory

The tract of land where Fort Belvoir is located was originally acquired for use by the District of Columbia. The land was transferred to the War Department in 1912 for the establishment of a rifle range and summer camp for engineering troops stationed at Washington Barracks, D.C. In 1917, Camp A. A. Humphreys opened to train Army engineers. In 1922, it became a permanent post and was later renamed Fort Humphreys. In 1935, Fort Humphreys became Fort Belvoir, named after a mansion built on the property by Colonel Fairfax in 1741. Fort Belvoir was the home of the Army Engineer School until 1988, when it became part of the Military District of Washington. In 1990, Fort Belvoir served as a mobilization station for Operations Desert Shield and Desert Storm.

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Belvoir. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations on the installation. Fort Belvoir archaeological collections are currently housed in six repositories in Virginia, as well as on the installation.

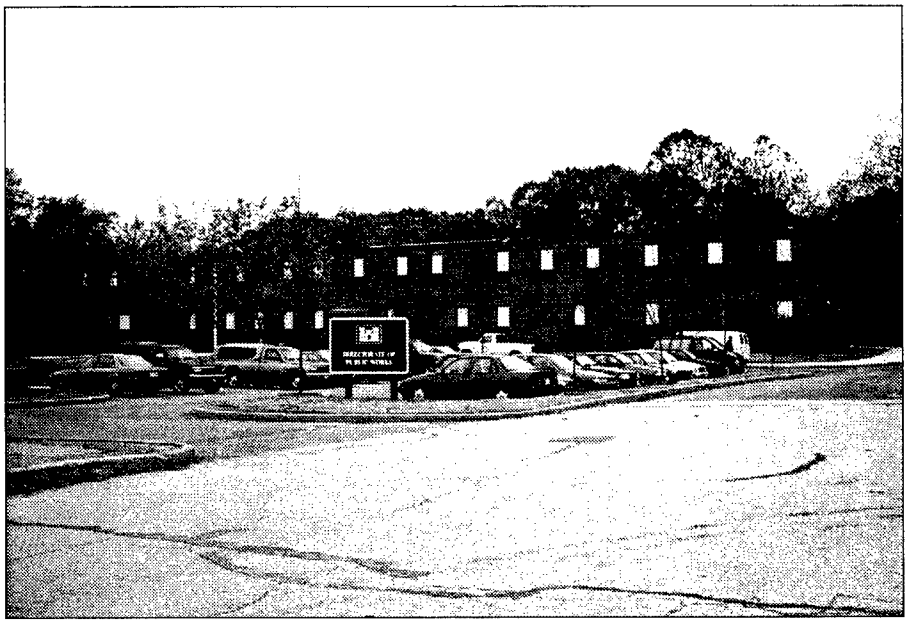

Figure 5. View of the DPW building that houses associated records and reports from Fort Belvoir.

The Directorate of Public Works (DPW) on Fort Belvoir is located in an administrative office building on the Fort Belvoir military installation (Figure 5). Only associated records and reports are stored in the offices of the DPW.

Assessment

Structural Adequacy

The office building in which the DPW is located encompasses approximately 26,400 ft^2. The structure, which is approximately 30 years old, has a concrete foundation and brick exterior walls. The roof is built-up asphalt, with instances of leaks and cracking having been reported in the past. The repository has a total of two floors aboveground. The collections storage area is on the first floor. Windows were upgraded to aluminum frames in 1985, and there is some indication that air leaks into the building through these windows. The collections storage area is an unused office currently storing office furniture and associated documentation. The floor is carpeted concrete. The interior walls are plasterboard, and the ceiling is suspended acoustical tile. There are no windows in the collections storage room. The wood-panel door to the collections storage area is in two sections, so that the bottom half can stay closed while the upper half can remain open.

Environmental Controls

The repository possesses a gas-powered, hot-water HVAC system with timed heating and cooling, but there is no humidity monitoring or control. The environmental controls are not equipped with dust filters. Any cleaning or maintenance of the repository is done by a public works contractor for Fort Belvoir. The utility systems are original to the structure, but minor upgrades were performed during the 1980s and 1990s. Employees have observed leakage from the HVAC system.

Pest Management

The pest-management program at the DPW, which includes periodic fumigation, is performed by DYNACOR, a contracted private company. No evidence of insect or rodent infestation was observed during the site visit.

Security

Access to the structure is controlled by base security; they also conduct periodic checks on the structure and the intrusion alarm system that is wired into the base police monitoring system. The repository is fitted with dead bolt locks on all external doors. There was no evidence of unauthorized access through any of the windows or doors, although there was one past episode of theft in the building (a television was stolen).

Fire Detection and Suppression

All fire alarms are wired into a base fire-detection system monitored by the base fire department. Fire extinguishers are inspected on a yearly basis. Fire drills and fire-prevention briefings are used to keep employees informed of fire risks and emergency procedures.

Artifact Storage

No artifact collections from Fort Belvoir are stored at the installation.

Human Skeletal Remains

No human skeletal remains recovered on Fort Belvoir are curated by the DPW.

Records Storage

Approximately 4.6 linear feet of associated documentation from archaeological investigations conducted on Fort Belvoir are stored in an unused, approximately 10-×-10-foot (100-ft^2) office at the DPW (Figure 6). All environmental controls for this room are the same as those for the remainder of the structure. There are functioning overhead pipes in this collections storage area that have leaked in the past. This collections storage area has no fire-suppression systems.

Paper Records

The approximately 4.3 linear feet of paper records stored at the DPW include both Section 106 and historical-preservation correspondence, as well as a small amount of background records. Within this collection is also some historical-properties correspondence. The primary container is a baked-enamel, lateral, roll-out-drawer file cabinet that measures 30 × 19 × 63.5 inches (w × d × h) and is located adjacent to the entrance to the collections storage area (Figure 7). Site forms and reports are stored in an acidic-cardboard box measuring approximately 3 ft^3. Acidic-paper folders with adhesive labels are used as secondary containers. Overall, the paper records are in good condition, although many of them contain contaminants (e.g., paper clips and staples).

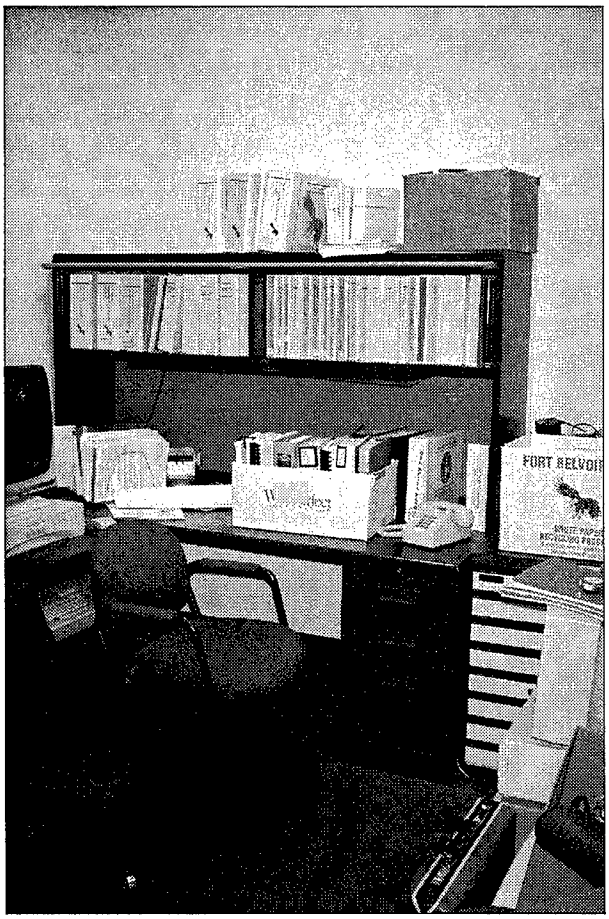

Figure 6. Associated documentation is stored in an extra office at the DPW.

Maps and Oversized Documents

Approximately 3.5 linear inches of large blueprints and installation maps are stored rolled up, standing on end, in an acidic-cardboard box. They are currently in poor condition because of

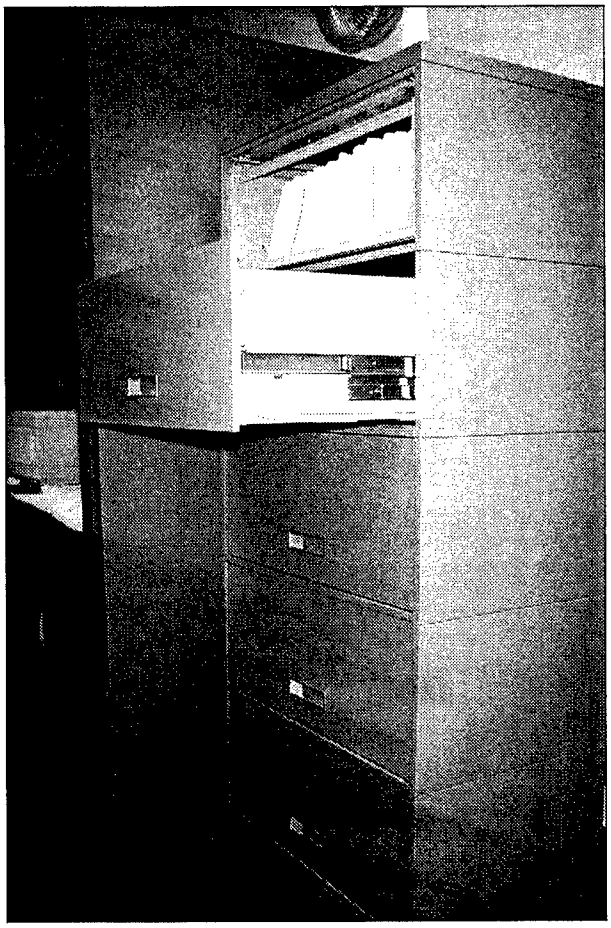

Figure 7. Active files are stored in hanging files in metal file cabinets at the DPW.

the storage method and lack of organization. Other than the titles on the maps, no labels are used on the cartographic records.

Collections-Management Standards

This facility is not a long-term repository; therefore, there are no formal procedures or standards of curation for this collection of associated records.

Curation Personnel

Fort Belvoir does not have a full-time curator or staff for its collection. James Gregory oversees any needed authorization and access to the collection.

Curation Financing

No funding is specifically allocated for a curation program.

Access to Collections

Outside researchers are granted access to the records only with authorization from the DPW.

Future Plans

Possible future plans include the creation of a cataloging system for records, if funding is available.

Comments

1. The current collections storage area is an unused office.

2. Overhead pipes pose a potential problem; leakage in the collections storage area has occurred in the past.

3. Fire-detection and -suppression systems in the collections storage area are inadequate.

4. No integrated computerized and paper reference system has been established for the collections.

5. Records are stored in nonarchival containers.

6. Duplicates of original documentation have not been produced.

7. Cartographic records are deteriorating.

8. Contaminants such as staples and paper clips are present in the original documents.

9. No formal policies or procedures for the curation of collections have been established.

Recommendations

1. Designate a collections storage area specifically for associated documentation.

2. Overhead pipes need to be protected and rendered more leak resistant.

3. Fire-detection and -suppression systems should be installed in the collections storage area including smoke detectors in combination with fire extinguishers.

4. An integrated computer and hard-copy reference system should be developed for easier access to the collection.

5. All original records need to be duplicated onto acid-free paper and stored in a separate, secure, and fire-safe location. Original and photocopied documentation must be stored in an archival, acid-free environment.

6. Cartographic records should be rehabilitated and stored flat in an archival environment.

7. Contaminants such as staples and paper clips should be removed from the original documents.

8. Develop and implement written policy for the curation of all associated archaeological documents.

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6

Fort Detrick

Frederick, Maryland

Installation Summary

Volume of Artifact Collections: 2.7 ft^3
On Base: 1 ft^3
Off Base: Goodwin, 1.7 ft^3 (see Chapter 21)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 0.2 linear foot (2.5 linear inches)
On Base: 1.0 linear inch
Off Base: Goodwin, 1.5 linear inches (see Chapter 21)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Date of Visit: February 7, 1995

Points of Contact: John Bennett, Master Planner, and Dr. Henry Erbes, Environmental Engineer

Fort Detrick is a multimission army installation that today is home to microbiological containment research, among other medical and communications functions. The Army Health Services Command is located at this installation, which traces its roots to Detrick Field, a small municipal airport that was constructed in the 1930s. The 104th Observation Squadron, part of the Maryland National Guard, set up a summer camp in this location and eventually the name changed to Fort Detrick, in honor of an army medical officer, Major Frederick L. Detrick.

In June 1994, St. Louis District personnel performed background archaeological research at MHT that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Detrick. Archaeological sites have been recorded and a number of reports have been generated as a result of archaeological investigations on the installation. Archaeological collections are currently housed in two repositories in Maryland, including Fort Detrick.

Fort Detrick is curating 1 ft^3 of artifacts and approximately 1 linear inch of documentation recovered during archaeological projects on the installation. The artifact collection consists primarily of items from historical-period contexts, but also contains materials from prehistoric contexts (Table 3). The most abundant prehistoric material class in the collection consists of lithics; the most abundant historical-period material class is glass.

The Fort Detrick environmental planning offices are located in Building 201, the DPW. The

Table 3. Summary, by Volume, of Material Classes Present in Fort Detrick Collections at the Installation

Material Class	%
Prehistoric	
Lithics	10
Faunal remains	5
Historical-period	
Glass	30
Ceramics	25
Metal	25
Brick	3
Rubber	2
Total	100

facility is a former airplane hangar that was converted to biological research laboratories, reaching its present form in the mid-1950s. Floor space totals approximately 50,000 ft^2.

Assessment

Structural Adequacy

Building 201 was originally constructed in the 1930s (Figure 8). The foundation is concrete, and the approximately 5-year-old roof is built-up asphalt. Exterior walls are corrugated metal over asbestos board. Clay structural tile inside the exterior walls is also covered. The roof and foundation are solid, with no cracks or leaks.

Building 201 has two aboveground floors. There are multiple exterior windows, with wood frames. Most of the windows are equipped with shades. The structure has been renovated, including the addition of a corrugated metal roof and interior plasterboard. Currently, the space is used for equipment and maintenance shops as well as offices.

The collections storage area, referred to as "the vault," measures approximately 600 ft^2. The floor is concrete, and the ceiling is concrete

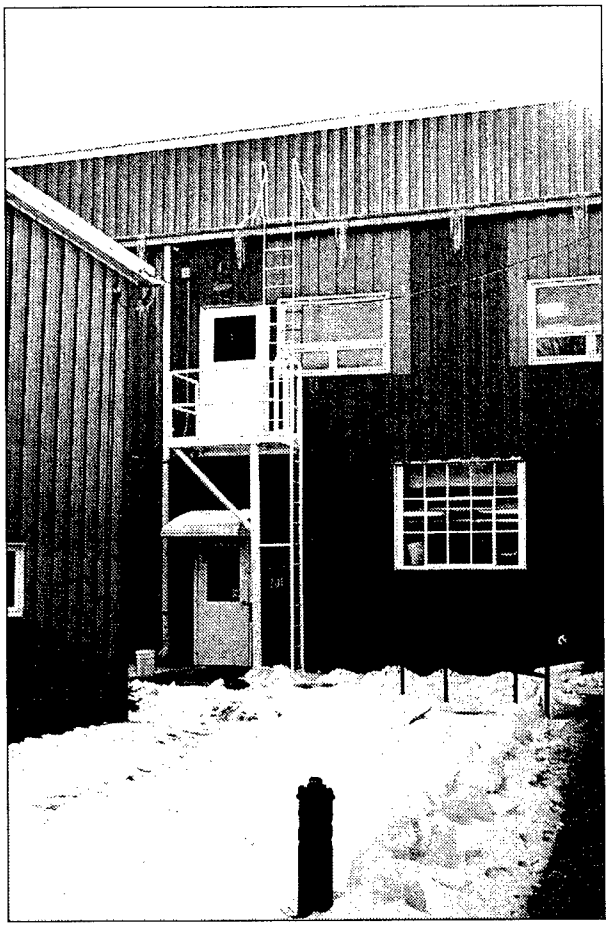

Figure 8. Entrance to repository on Fort Detrick.

with metal support beams. The interior walls are concrete block. There are no windows, and only one metal-panel door to the repository. The collections storage area, filled to approximately 80 percent capacity, is used primarily for the storage of records and maps. For the most part, it contains metal file cabinets and metal map cabinets. Archaeological collections encompass less than 5 percent of the storage space.

Environmental Controls

Building 201 is equipped with central air-conditioning and hot-water, wall-unit heating. There are dust filters on the air-conditioning and heating vents. Humidity is neither monitored nor controlled. The structure is regularly maintained

and cleaned by a private company contracted through Fort Detrick.

Pest Management

Fort Detrick has an integrated pest-management program. Monitoring is accomplished by the use of sticky traps and bait, and spraying is conducted twice a year by in-house personnel. Additional spraying is conducted as-needed.

Security

Security measures consist mainly of key locks on all exterior doors and window locks on all exterior windows. In addition, military police regularly patrol the area. The collections storage area door is secured by an electronic keypad-operated lock. No past episodes of unauthorized entry into the repository have been reported.

Fire Detection and Suppression

Fire-detection devices in the repository consist of manual fire alarms, heat sensors, smoke detectors, and fire alarms that are wired into the local fire department. Repository fire-suppression equipment consists only of fire extinguishers. Fire-detection devices within the collections storage area include smoke detectors and heat sensors. There are no fire extinguishers in the collections storage area.

Artifact Storage

Storage Units

Archaeological collections are stored in a cardboard box located on the top of several 7-foot-tall, metal file cabinets in the rear of the collections storage area (Figure 9).

Primary Containers

Artifacts are stored in one acidic-cardboard box with a volume of 1 ft^3. The box has folded flaps, and is directly labeled "archaeological survey" in marker.

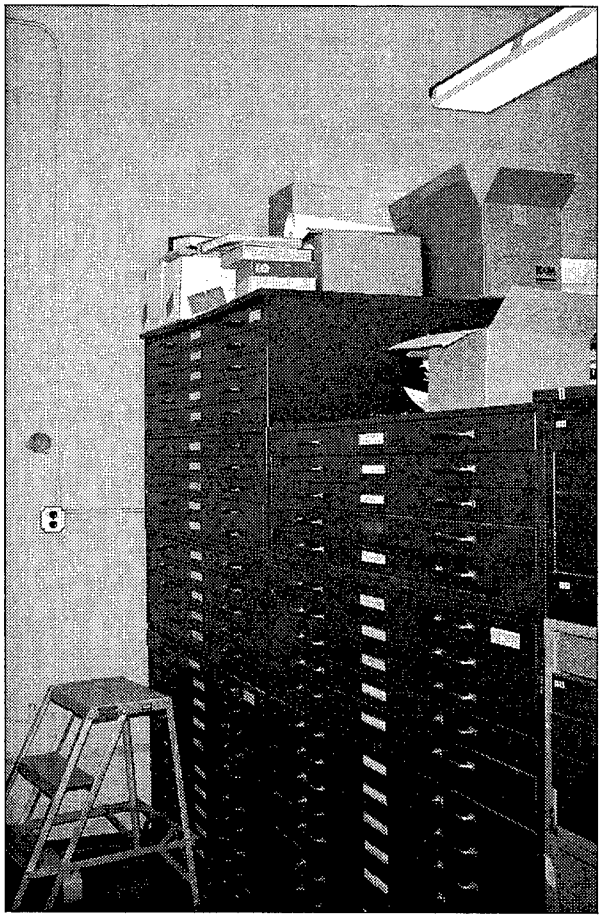

Figure 9. Collections are stored in a box on top of the highest of the flat map cabinets.

Secondary Containers

Secondary containers consist of zip-lock, 4- and 6-mil polyethylene bags. Bags are labeled directly in marker; label information consists of installation, site number, and provenience (Figure 10). There are multiple tertiary containers, all of which are zip-lock, 4- and 6-mil polyethylene bags. Tertiary containers are labeled in an identical fashion to the secondary containers, except that some contain acid-free-paper tags labeled directly with marker. Label information is the same: installation, site number, and provenience.

Laboratory Processing and Labeling

All of the artifacts have been cleaned and sorted by material class. Approximately 75 percent of the artifacts have been labeled directly in ink with site number, field site number, or both.

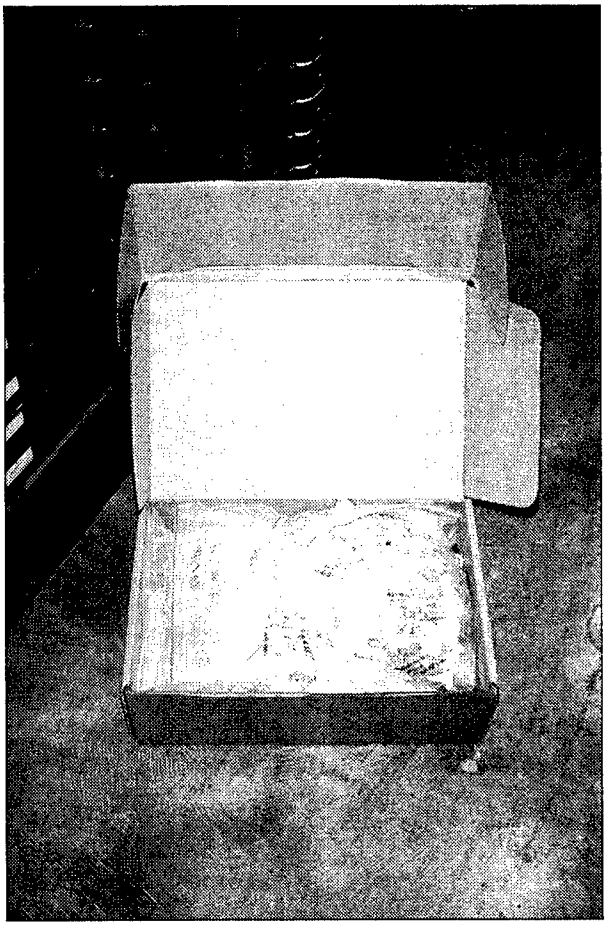

Figure 10. An open acidic-cardboard primary container reveals zip-lock plastic bags used as secondary containers on Fort Detrick.

Human Skeletal Remains

Fort Detrick is not currently curating any human skeletal remains recovered during archaeological projects on the installation.

Records Storage

Documentation (one final report) associated with the archaeological projects at Fort Detrick is located in a box stored on top of the stacked map cases, next to the box containing the artifacts.

Project Reports

Twenty-one copies of one archaeological survey report are stored in a 1.2-ft^3 acidic-cardboard box. The total documentation measured as part of the collection is one report (1 linear inch), because only a single copy is considered necessary for the storage of the collection. The extra copies of the report will likely be distributed among agencies, firms, and researchers. The report is stored in a vinyl binder with a title page slipped into the exterior, clear, plastic pocket.

Collections-Management Standards

Registration Procedures

Accession Files

Fort Detrick does not accession materials.

Location Identification

The location of archaeological collections within the repository is not identified in any document.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

No guide to the collections has been published.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used.

Computerized Database Management

No computer database programs are used for management of Fort Detrick archaeological collections.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no minimum standards for the acceptance for archaeological collections by Fort Detrick.

Curation Policy

No formal curation policy has been written.

Records-Management Policy

There is no formal records-management policy.

Field-Curation Procedures

There are no field-curation guidelines.

Loan Policy

No formal loan procedures have been written.

Deaccessioning Policy

Fort Detrick does not accessioned collections; therefore, it has no deaccessioning policy.

Inventory Policy

There is no inventory policy.

Latest Collection Inventory

Collections were last inventoried in 1993.

Curation Personnel

There is no full-time curator for the archaeological collections. Cultural resources management is only an ancillary duty of John Bennett, Master Planner, and Dr. Henry Erbes, Environmental Engineer.

Curation Financing

Curation activities are not financed at Fort Detrick.

Access to Collections

Staff members and other interested parties can arrange access to the collections through Bennett.

Future Plans

There are no future plans for the curation of archaeological collections at this installation.

Comments

1. The repository does not monitor or control humidity.

2. Although the collections storage area has a code lock on the door, security measures for the repository as a whole is limited to key locks on exterior doors.

3. An integrated pest-management program, which includes monitoring and control, is in place.

4. There are multiple forms of fire detection in place, but no adequate fire-suppression equipment, such as a sprinkler system, present.

5. Artifacts and associated documentation are stored in acidic-cardboard boxes.

6. Although the project report appears to be thorough, original field notes and other associated documentation are absent from the collection.

Recommendations

1. Install an HVAC system. If this is infeasible, purchase a hygrothermograph or sling psychrometer to monitor humidity and a dehumidifier to control humidity.

2. Install a security system in the repository, and wire the system into the local police or military police department.

3. Install a sprinkler system throughout the entire in the repository and place a dry-chemical fire extinguisher in the collections storage area.

4. Rebox artifacts and documentation using acid-free Hollinger cardboard boxes.

5. Locate original field notes and other associated documentation and store it with the collections in acid-free primary and secondary containers. Produce duplicates of original documentation on acid-free paper and store at a separate, secure, fireproof location.

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7

Fort Eustis

Newport News, Virginia

Installation Summary

Volume of Artifact Collections: 63.9 ft^3

On Base: None

Off Base: VDHR, 60.5 ft^3 (see Chapter 34); JRIA, 2 ft^3 (see Chapter 25); WMCAR, 1.4 ft^3 (see Chapter 35)

Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 3 linear feet (36 linear inches)

On Base: None

Off Base: MAAR, 29 linear inches (see Chapter 27); JRIA, 4.0 linear inches (see Chapter 25); WMCAR, 2.0 linear inches (see Chapter 35); VDHR, 1.0 linear inch (see Chapter 34)

Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Fort Eustis began as an artillery training camp in 1918 and was named in honor of Brigadier General Abraham Eustis, an artillery officer. In 1946, Fort Eustis became a principal training post for the Army Transportation Corps. Felker Army Airfield was the first military heliport and remains the Army's only heliport with at least one of every type of Army helicopter in active service. In addition, Fort Eustis is responsible for the environmental compliance of Fort Story (see Chapter 13).

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Eustis. Archaeological sites have been recorded on Fort Eustis, and a number of reports have been generated as the result of archaeological investigations on the installation.

No Fort Eustis archaeological collections are curated at the installation; they are currently housed in four repositories in Virginia. Because no Fort Eustis archaeological collections are being curated at the installation, collections-management standards for the base will not be discussed.

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8

Fort A. P. Hill

Virginia

Installation Summary

Volume of Artifact Collections: 49.9 ft^3
On Base: 44.2 ft^3
Off Base: G&P, 3.2 ft^3 (see Chapter 22); WMCAR, 1.4 ft^3 (see Chapter 35); VDHR, 1.1 ft^3 (see Chapter 34)
Compliance Status: Collections require complete rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 3.1 linear feet (37.75 linear inches)
On Base: 13 linear inches
Off Base: G&P, 12 linear inches (see Chapter 22); MAAR, 9.75 linear inches (see Chapter 27); VDHR, 1.25 linear inches (see Chapter 34); WMCAR, 1.0 linear inch (see Chapter 35); VCUARC, 0.75 linear inch (see Chapter 33)
Compliance Status: Associated documentation requires complete rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: 1 possibly human bone fragment

Status of Curation Funding: Curation of archaeological collections is not financed.

Date of Visit: May 11, 1995

Points of Contact: Terry Banks, Environmental Coordinator, and Evelyn Peyton

Fort A. P. Hill was established as a U.S. Army installation during World War II (WW II), for the purpose of assembling and training thousands of soldiers. The installation is located in Caroline County, eastern Virginia. Numerous archaeological surveys and some testing have been conducted on the installation. Fort A. P. Hill was formerly a subpost of Fort Lee, Virginia, and is currently a training installation for Fort Meade, Maryland.

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort A. P. Hill. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations on the installation. Fort A. P. Hill archaeological collections, currently housed in six Virginia repositories (including the installation), consist of items from both prehistoric and historical-period contexts (Table 4). The largest prehistoric material class in the collections is lithics; the largest historical-period material class is metal.

[*Editors' note:* In summer 1995, after the St. Louis District assessment team's visit, Cultural Resources, Inc., was contracted to rehabilitate the Fort A. P. Hill archaeological collections.

Table 4. Summary, by Volume, of Material Classes Present in Fort A. P. Hill Collections at the Installation

Material Class	%
Prehistoric	
Lithics	22
Ceramics	2
Faunal remains	2
Shell	1
Botanical	< 1
Soil	< 1
^{14}C samples	< 1
Historical-period	
Metal	30
Ceramics	20
Glass	14
Brick	7
Leather	< 1
Rubber	< 1
Total	100

Recent correspondence with environmental personnel at the installation indicates that the collections now occupy approximately 25 ft^3, and that they have been upgraded to meet the curation standards set forth in 36 CFR Part 79. This summary, however, reports on the conditions of the collections at the time of the St. Louis District site visit.]

Fort A. P. Hill stores archaeological collections in three separate storage locations. A large volume of artifacts is housed in a well house (Storage Location 1). Administrative project records are stored in a rented trailer (Storage Location 2) that is near the well house and houses primarily offices for the environmental staff. A small number of artifacts are displayed in the post museum (Storage Location 3).

Assessment of Storage Location 1: Well House

Structural Adequacy

Storage Location 1, the well house, is a small stand-alone structure (Figure 11) associated with a much larger building housing offices and meeting space. It is located within a compound that is enclosed by a fence with barbed wire on its top. Approximately 20 years old, the well house

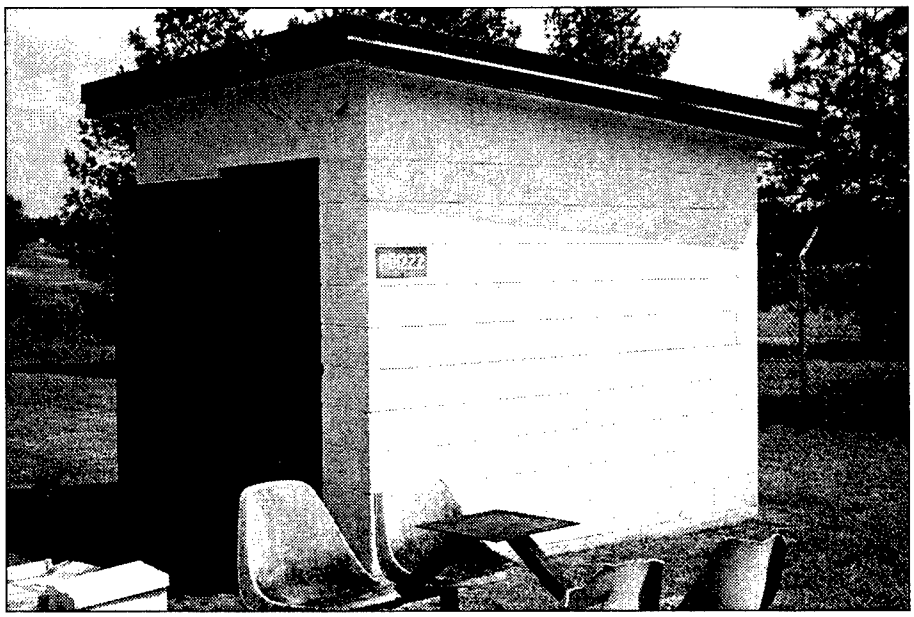

Figure 11. Exterior of Storage Location 1, the well house, on Fort A. P. Hill.

was originally used as named, but in recent years has been used only for storage of miscellaneous items, including archaeological materials. The structure's foundation is concrete, the exterior walls are concrete block, and the roof is constructed of tar and gravel over a wood frame. Total floor space of the single-story well house is approximately 80 ft^2, with no interior divisions of space. There is one window and one solid, wood door to the exterior.

Environmental Controls

Storage Location 1 is not equipped with any environmental controls. The window is not shaded, and there is evidence (e.g., water-damaged boxes) that water leakage has been a problem. It is possible, however, that unchecked high humidity caused the box damage. Cans of paint and a large drum of solvent were noted in close proximity to the collections. The well house is not regularly maintained.

Pest Management

There is no integrated pest-management program for the well house, which exhibited extensive signs of pest infestation, including live and dead insects, rodent feces, and bird excrement on and within the archaeological collections storage containers.

Security

The well house's exterior door is secured by a padlock. The structure has the added security of being located within the environmental building compound.

Fire Detection and Suppression

The well house has no fire-detection or -suppression systems.

Assessment of Storage Location 2: Trailer

Structural Adequacy

Storage Location 2 is a standard trailer-house-sized structure made primarily of corrugated metal (Figure 12). It rests on concrete blocks. There is one floor, with a set of wood steps leading up to the two exterior doors. There are multiple

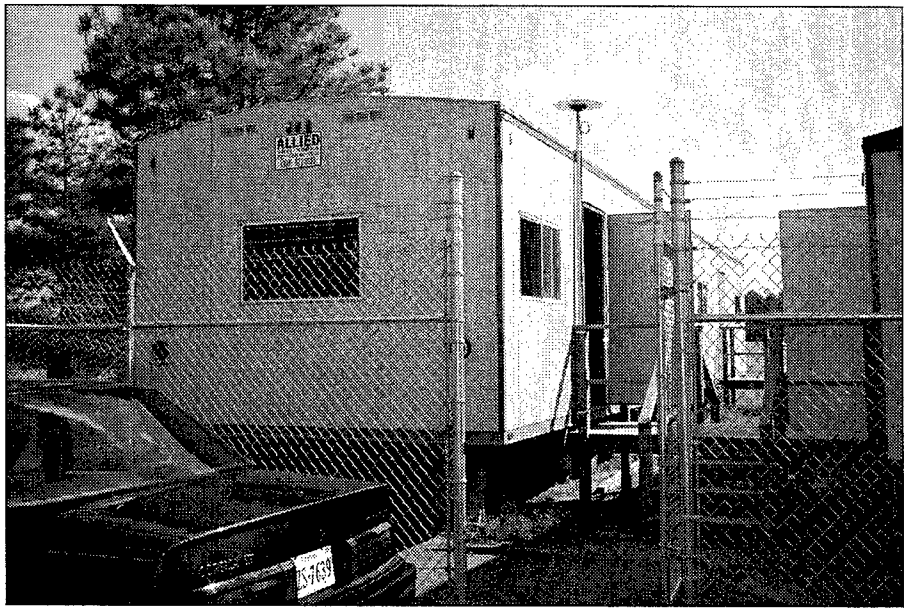

Figure 12. View of Storage Location 2, a rented trailer, where associated records are stored.

exterior windows and several interior partitions used to help delineate office spaces. Window frames are aluminum, and the windows are equipped with shades. The trailer is filled to capacity with offices and records storage. The interior floor is tiled and the walls are paneled. The ceiling is suspended acoustical tiles.

Environmental Controls

Storage Location 2 is equipped with heating and air-conditioning. Humidity, however, is neither monitored nor controlled. There are no dust filters on the environmental controls. The trailer is regularly cleaned and maintained by installation staff.

Pest Management

There is no integrated pest-management program for the rented trailer, but no visible signs of pest infestation were observed during the site visit.

Security

Storage Location 2 is located within the same environmental building compound in which the well house is situated. The exterior fence is equipped with a top ring of barbed wire, and the exterior gate has a dead bolt lock. The area is patrolled by installation military police. The trailer itself is equipped with key locks on both exterior doors.

Fire Detection and Suppression

There are no fire-detection systems located within the trailer and the only fire-suppression equipment is a nitrogen fire extinguisher.

Assessment of Storage Location 3: Fort A. P. Hill Museum

Structural Adequacy

The Fort A. P. Hill Museum, Storage Location 3, is a small, one-room facility located in the main cantonment area of the installation (Figure 13). Although originally used as a Class 6 (liquor) store, it was later converted into a museum. The foundation is poured concrete and concrete block. Exterior walls are constructed of aluminum siding over wood. The roof, composed of shingles, is original to the building.

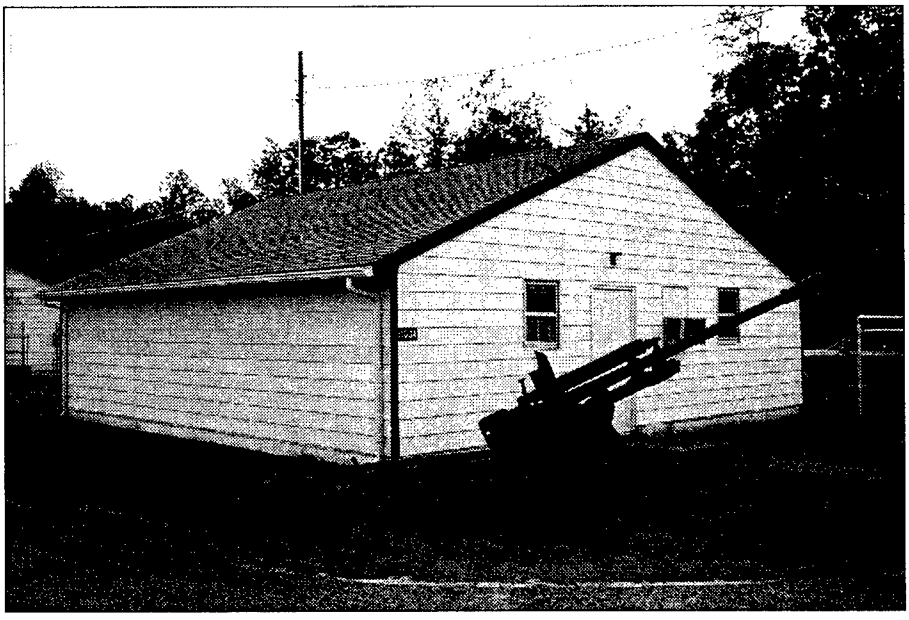

Figure 13. View of Storage Location 3, the Fort A. P. Hill Museum.

Figure 14. Prehistoric and historical-period artifacts are on display in the Fort A. P. Hill Museum.

There is one floor and two exterior doors. There are four exterior windows, two on the north side of the structure and two on the south side. The museum has multiple exhibits and display cabinets, with one cabinet containing archaeological materials (Figure 14).

Environmental Controls

The museum is equipped with heating and air-conditioning. There is no monitoring or regulation of humidity, and the environmental systems are not equipped with dust filters. The museum is regularly cleaned and maintained by installation staff.

Pest Management

In the museum, pest control is done regularly and as needed. There is not, however, an integrated pest-control program that includes monitoring. No signs of pest infestation were observed in the museum during the site visit.

Security

All exterior doors are equipped with key locks and all exterior windows have metal bars. The museum also has an intrusion alarm wired into the military police, which includes motion detectors in the museum's interior.

Fire Detection and Suppression

Fire-detection devices in the museum consist of manual fire alarms and smoke detectors that are wired into the installation fire department. Fire-suppression equipment consists of one water fire extinguisher.

Assessment of Storage Locations 1–3

Artifact Storage

Storage Units

Boxes of artifacts are stacked on the concrete floor of Storage Location 1 (Figure 15). In Storage Location 3, artifacts are exhibited in a wood-and-glass storage case measuring 3.1 × 1.1 × 3.4 feet (w × d × h).

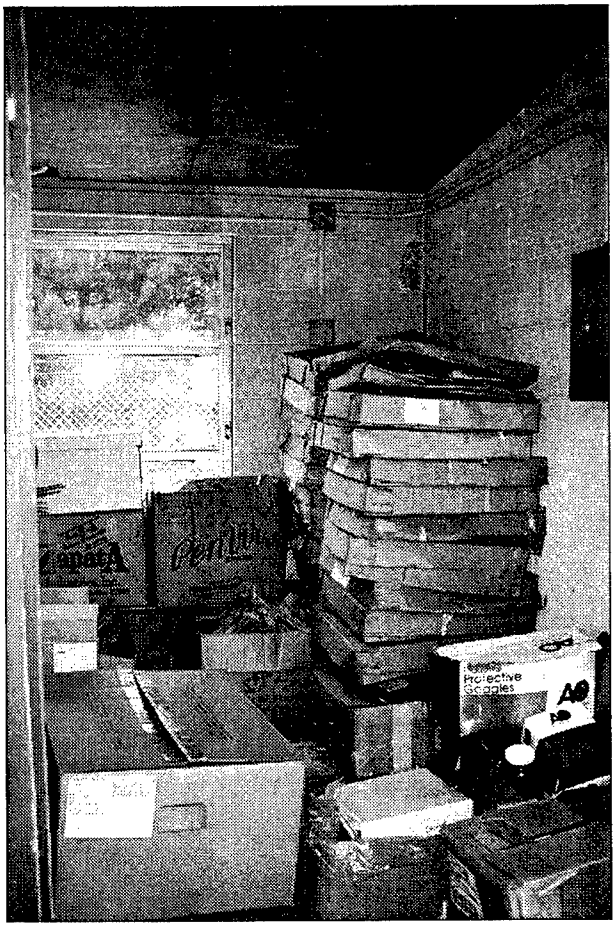

Figure 15. Damaged artifact boxes are stacked against the wall in Storage Location 1.

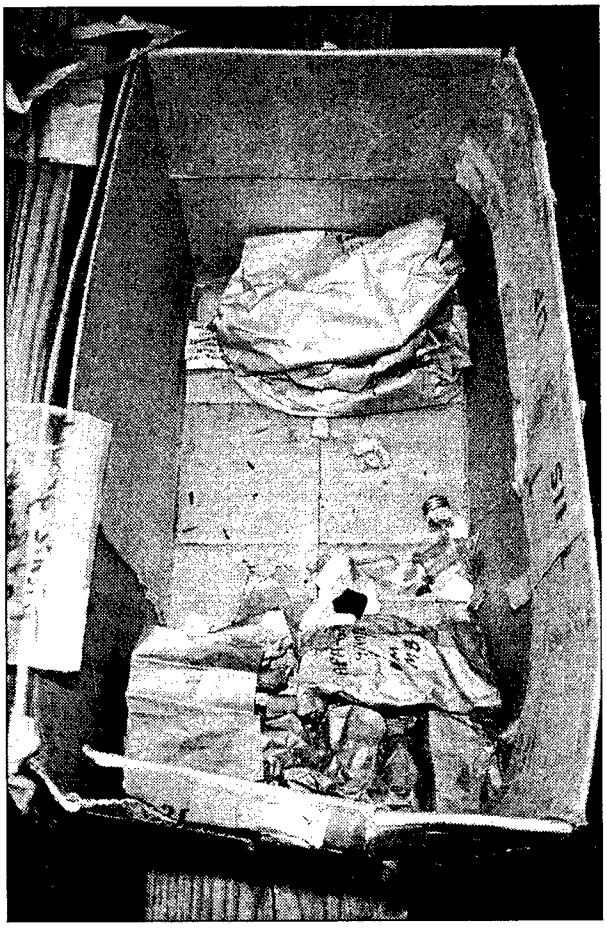

Figure 16. Example of an interior of a primary container used on Fort A. P. Hill. Note the broken artifacts loose in the bottom of the box.

Primary Containers

Primary containers for artifacts consist almost entirely of acidic-cardboard boxes (Figure 16). The exception is the museum case constructed of wood and glass. Cardboard boxes range in volume from 0.7 ft^3 to 2.1 ft^3. Most are not labeled, but a few are labeled inconsistently with site numbers or project names written directly on the box in marker.

Secondary Containers

Fort A. P. Hill collections are enclosed in a variety of secondary containers, the majority being zip-lock plastic bags and paper bags (Table 5). Secondary-container labels generally consist of the site number written directly on the container in marker. Provenience information is sometimes included. Paper bags are largely in very poor condition, most being damp and torn. There are often multiple tertiary containers—zip-lock plastic bags or paper bags—labeled in the same fashion with the same information and generally in the same condition as the secondary containers.

Laboratory Processing and Labeling

Most artifacts have been cleaned, but only 13 percent—mostly those housed in Storage Location 3—have been labeled. Labels consist of site number and provenience written directly on the surface of the artifact in ink or on a typed, adhesive label attached to the artifact. Only 35 percent of the artifacts are sorted by material class.

Table 5. Summary, by Volume, of Secondary Containers Used for Fort A. P. Hill Collections at the Installation

Container Type	%
Plastic bags	44
Paper bags	36
Cardboard boxes	11
Loose	8
Other[a]	1
Total	100

[a] "Other" includes plastic vials and plastic trash bags.

Human Skeletal Remains

There is one bone fragment that may be human skeletal remains, which should be examined by a physical anthropologist. It was recovered from site 44CE1. The bone was not labeled as human.

Records Storage

There are 11 linear inches of records stored in file cabinets in Storage Location 2; an additional 2 linear inches are housed in Storage Location 1. Storage units consist of letter-sized, metal, five-drawer file cabinets measuring 1.3 × 2.4 × 5 feet (w × d × h). The cabinets are equipped with key locks.

Paper Records

Administrative records measure 10 linear inches and are stored manila folders. Some folders are labeled directly with document type in marker, whereas others bear typed adhesive labels. Less than 1 linear inch (.75 linear inch) of maps are housed in Storage Location 2 with the paper records.

Project Reports

One box containing 2 linear inches of circulated reports is stored in Storage Location 1 with the artifacts. The less than 1 linear inch (.25 linear inch) of reports found in Storage Location 2 is stored with the rest of the paper records.

Collections-Management Standards

The Fort A. P. Hill environmental offices are not considered to be long-term curation facilities. Therefore, they do not operate under museum registration procedures or written curation policies and procedures.

Curation Personnel

Fort A. P. Hill does not employ a curator or archaeologist for the care of their collections. Terry Banks, Environmental Coordinator, and Evelyn Peyton are responsible for cultural resource management.

Curation Financing

Curation activities have not been financed.

Access to Collections

General access to the collections is limited to environmental staff. Researchers may access the collections with permission.

Future Plans

Future plans include rehabilitating and storing the collections, following the guidelines and standards of 36 CFR Part 79.

Comments

1. Storage Location 1 has no environmental controls, and Storage Locations 2 and 3 have no humidity-monitoring or -control systems.

2. Storage Location 3 is the only storage location equipped with a security system wired into the military police.

3. Storage Location 1 has no fire-detection or -suppression system, and Storage Location 2 has only a fire extinguisher for fire suppression. Storage Location 3 has modest fire-detection capabilities, including manual alarms and smoke detectors wired into the installation fire department. The museum is limited to a fire extinguisher for its fire-suppression method, however.

4. Artifacts are in very poor condition. Although most have been cleaned, very few are sorted or labeled. Primary containers are compressed, damp, and infested with pests or their feces. Secondary containers are not uniformly labeled, and most are torn and deteriorating.

5. Proper heating and cooling in Storage Location 2 has kept the associated documentation in good condition.

Recommendations

1. Remove artifacts from Storage Location 1. Rehabilitate and relocate artifacts to Storage Location 3 until more suitable conditions can be found. Produce duplicates of all records and store with the artifacts in Storage Location 3.

2. Install an HVAC system in Storage Location 3. If not feasible, monitor humidity with a hygrothermograph or sling psychrometer, and control it with a dehumidifier.

3. Implement an integrated pest-management program that includes monitoring and control.

4. Install a sprinkler system in Storage Location 3.

5. Remove artifacts from their current acidic-cardboard primary containers and acidic-paper-bag secondary containers, and place them acid-free Hollinger boxes and archival-quality, zip-lock, 4- and 6-mil bags. Label artifacts directly in indelible ink, and insert acid-free-paper tags made from spun-bonded polyethylene paper (e.g., Nalgene polypaper) into the secondary containers. Employ a physical anthropologist to examine the one bone that may be human skeletal remains, and follow NAGPRA procedures if necessary.

6. Remove records from their current acidic folders and place them in archival-quality containers. Duplicate associated documentation onto acid-free paper, and archivally store the copies in acid-free folders within acid-free-cardboard boxes or fireproof file cabinets in a separate, fireproof, secure location. Produce an additional copy of documentation and store it with the artifacts in Storage Location 3, the museum.

7. Search for a facility with adequate space and staff qualified to properly care for the collections in perpetuity. Produce a curation agreement with that facility and curate the collections there.

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9

Fort Lee

Petersburg, Virginia

Installation Summary

Volume of Artifact Collections: 31.3 ft^3
On Base: None
Off Base: G&P, 15.6 ft^3 (see Chapter 22); WMCAR, 1.4 ft^3 (see Chapter 35); VDHR, 14.3 ft^3 (see Chapter 34)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-tern curation of archaeological materials.

Linear Feet of Records: 3.3 linear feet (40 linear inches)
On Base: None
Off Base: G&P, 23.75 linear inches (see Chapter 22); MAAR, 11.25 linear inches (see Chapter 27); VDHR, 3.5 linear inches (see Chapter 34); WMCAR, 1.5 linear inches (see Chapter 35)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Camp Lee, established in 1917 and named in honor of Confederate Civil War commander General Robert E. Lee, was selected as a state mobilization camp and later became a division training camp. After World War I (WW I), Camp Lee was taken over by the state and designated a game preserve. Portions of the land were later incorporated into the National Military Park, Petersburg. In 1940, construction began on another Camp Lee on the same site as the earlier Camp Lee. In 1941, the Quartermaster Replacement Training Center (QMRTC) began operation. Quartermaster School was moved here, including Officer Candidate School. Camp Lee was renamed Fort Lee in 1950 and became a Class I military installation under the Second Army. In 1963, Camp Pickett and Camp Hill were established as subinstallations. Fort Lee became part of the Army Training and Doctrine Command in 1973.

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Lee. Archaeological sites have been recorded on Fort Lee and a number of reports have been generated as the result of these archaeological investigations. Archaeological collections from Fort Lee are currently housed in four repositories in Virginia. Because no Fort Lee archaeological collections are being curated at the installation, collections-management standards for the base will not be discussed.

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10

Fort George G. Meade

Maryland

Installation Summary

Volume of Artifact Collections: 12.1 ft^3
On Base: 3.8 ft^3
Off Base: MHT, 5.8 ft^3 (see Chapter 26); USACE Baltimore District, 2.5 ft^3 (see Chapter 31)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 4.3 linear feet (51 linear inches)
On Base: 40.5 linear inches
Off Base: USACE Baltimore District, 9.75 linear inches (see Chapter 31); MHT, 0.75 linear inch (see Chapter 26)
Compliance Status: All associated documentation is in generally in very good condition. Original associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not financed at this time.

Date of Visit: December 8, 1995

Point of Contact: William Harmeyer

Fort George G. Meade was built in 1917 for troops that were drafted to serve in WW I. It was originally named Camp Meade in honor of Civil War Major General George G. Meade. It was renamed Fort Leonard Wood in 1928, but Pennsylvanians protested this so much that the name became Fort Meade. During World War II (WW II), Fort Meade served as a training center. In 1973, an Army reorganization provided for a transition from Active Army organization to Reserve Components.

In June 1994, St. Louis District personnel performed background archaeological research at MHT that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Meade and Fort Holabird, a subinstallation of Fort Meade located in Baltimore. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations on the installation. Archaeological collections are currently housed in three repositories in Maryland, including the installation.

The fort's environmental offices are located in Building 239. Approximately 3.8 ft^3 of materials recovered on Fort Meade—primarily from historical-period contexts but including items from prehistoric contexts—and 3.3 linear feet of associated documentation are housed in this facility. Lithics dominate the prehistoric artifact

Table 6. Summary, by Volume, of Material Classes Present in Fort Meade Collections at the Installation

Material Class	%
Prehistoric	
Lithics	4
Faunal remains	1
Worked bone & shell	1
Historical-period	
Ceramics	73
Glass	12
Metal	9
Total	100

collection; ceramics dominate the historical-period collection (Table 6).

Building 239, which encompasses approximately 2,125 ft^2, is not an official repository (Figure 17). Activity areas in the structure include offices, a reception area, a conference area, and rest rooms. Collections are currently being stored in the closet within one of the offices.

Assessment

Structural Adequacy

Building 239 was constructed in approximately 1945. It has reinforced-concrete piers, a wood frame, and aluminum siding. The shingled roof is approximately 15 years old; no leaks or cracks are apparent. The single-story structure has no history of major renovations. Windows are in 2-x-4-foot aluminum frames and are located on all sides of the structure. The windows are not original to the structure.

Environmental Controls

Building 239 is equipped with regulated temperature controls for heating and cooling, which are provided by a forced-hot-air and heating-oil system. The environmental-control system is equipped with dust filters. No humidity-monitoring or -control systems are present. The plumbing, electrical, and heating systems have recently been upgraded. Maintenance of the structure is the responsibility of the fort's Department of Public Works.

Figure 17. Exterior of Building 239, Fort Meade's environmental offices, where collections are stored.

Pest Management

No integrated pest-management program is in place for Building 239; however, no evidence of rodent or insect infestation was observed in the temporary collections storage area or the structure during the site visit. Fumigation and rodent-control measures take place on an as-needed basis.

Security

The structure has key and dead bolt locks on the front door. All windows are accessible from the exterior, and are secured with standard window locks. No evidence of unauthorized access through any of the windows or doors was observed during the site visit, and no past episodes of unauthorized entry into the structure have been reported. A base security patrol makes periodic visits to the structure.

Fire Detection and Suppression

Fire-detection and -suppression devices throughout the structure include manual fire alarms, a heat sensor, smoke detectors, and a fire extinguisher. A smoke alarm is the only fire-detection device in the collections storage area.

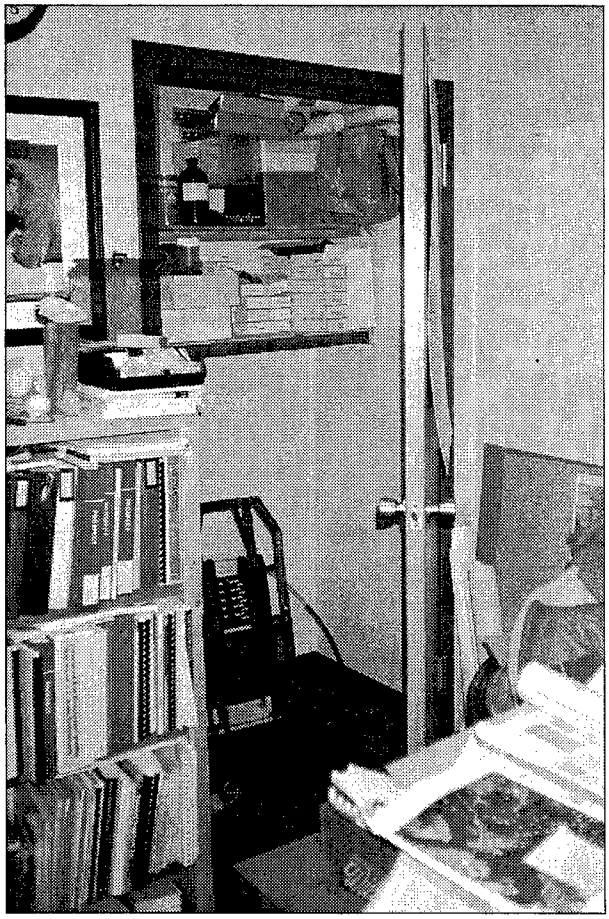

Figure 18. Office closet used for the storage of artifact and record collections on Fort Meade.

Artifact Storage

Artifacts and records are stored in a closet in William Harmeyer's office, in Building 239 (Figure 18). The 2-x-4-foot (8-ft^2) closet also contains personal items, office supplies, and field equipment.

Storage Units

Archaeological collections are stored in boxes stacked on the floor of Harmeyer's closet.

Primary Containers

Approximately 3.4 ft^3 of artifacts recovered on Fort Meade are stored in acid-free Hollinger cardboard boxes with telescoping lids (Figure 19). These boxes are labeled with contents, site number and provenience. Labels are acid-free-paper slips within adhesive, zip-lock, plastic covers. The remainder of the artifacts are stored in an acidic-cardboard box that has a volume of 0.4 ft^3. This acidic box is a mailed packing container from the Planning Division, USACE Baltimore District. None of the information on the outside of the box pertains to the artifacts inside. The box has opened flaps and it is in poor condition is (i.e., tears in the cardboard).

Secondary Containers

Secondary containers for the artifacts within the acid-free boxes are zip-lock, 4-and 6-mil plastic bags with labels written directly on the bags in black marker. There are ventilation holes through the bags. The collections in the acidic-cardboard box are stored in acidic-paper bags with labels written directly on the bags with pen

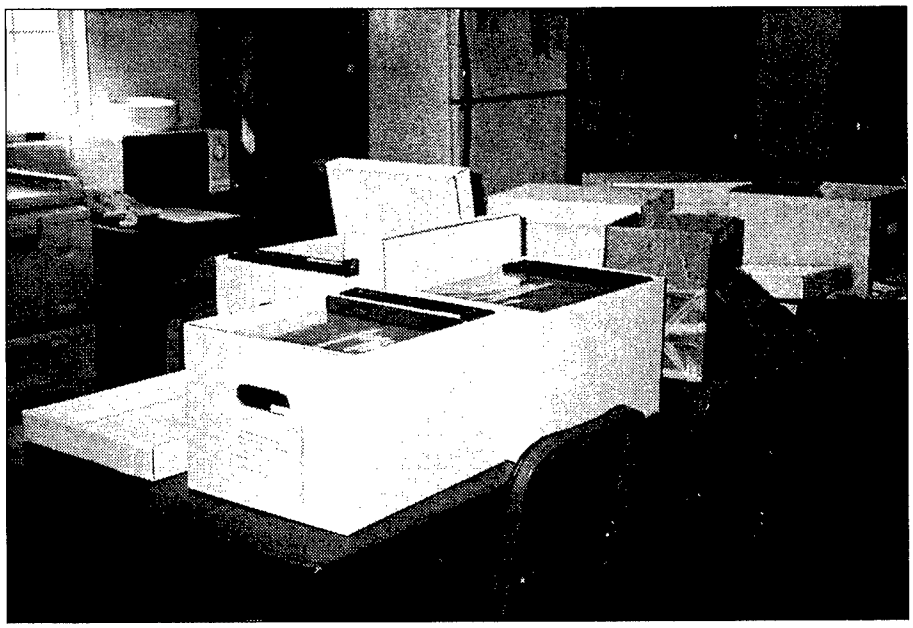

Figure 19. Cardboard boxes are used as primary containers for artifacts and associated documentation on Fort Meade.

and pencil. Paper slips that bear other pertinent site information are inside the bags. Two empty paper bags are also in this box.

Laboratory Processing and Labeling

The majority (97.5%) of the artifacts are clean. Approximately 80 percent are labeled. The artifacts in the acid-free boxes have a paper label inserted within their secondary container. Artifacts in the acidic box are labeled directly in ink.

Human Skeletal Remains

No human skeletal remains recovered on Fort Meade are included in the on-base collections.

Records Storage

The Fort Meade collections include approximately 3.4 linear feet (40.5 linear inches) of associated archaeological documentation and reports. These records are stored in three acid-free boxes with the artifact boxes. Some records are stored in three-ring binders that bear computer-generated, adhesive labels. In general, the associated documentation is in excellent condition. In addition to these records, computer-generated base aerial maps with site numbers are kept on file in the office.

Paper Records

There are approximately 2.6 linear feet of paper records associated with the collections stored at the installation. Of this total, 2 linear inches of records are artifact inventories and 29.5 linear inches are survey forms, and field records and notes (including site maps). All paper records are copies of original records that are located at Goodwin. Many of the paper records contain contaminants (e.g., paper clips, metal binder clips, and staples).

Photographic Records

Approximately 2.5 linear inches of photographic records, including contact sheets and negatives, color slides, photograph logs, and color prints, are stored in the environmental offices. The photographic records are stored in the boxes that contain the other documentation.

Maps and Oversized Documents

The installation currently holds about 0.5 linear inch of cartographic records, which consist of small, site-specific drawings.

Project Reports

Approximately 6 linear inches of final reports are stored in the same primary containers as the other records.

Collections-Management Standards

The environmental offices in Building 239 are not considered a long-term repository. No standards for the management of archaeological collections have been established.

Comments

1. No humidity-monitoring or -control equipment is in place.

2. An integrated pest-management program has not been implemented for Building 239.

3. Fire-detection and -suppression measures in the collections storage area are inadequate.

4. While most of the collection is properly stored in acid-free-cardboard boxes, acidic-cardboard boxes are used as primary containers for a portion of the collection. The primary containers are stored on the floor of a closet.

5. Associated documentation contains contaminants (e.g., paper clips and staples).

6. Photographic records are not stored in archival-quality sleeves.

Recommendations

1. Install an HVAC system with humidity controls.

2. Implement an integrated pest-management program for Building 239.

3. Place fire-detection and -suppression devices in or near the collections storage area.

4. Place the artifacts stored in the acidic box in a properly labeled, acid-free primary container.

5. Remove all contaminants from the associated documentation.

6. Store the photographic records in archival containers (e.g., sleeves for negatives and photographs).

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11

Fort Monroe

Virginia

Installation Summary

Volume of Artifact Collections: 100.2 ft^3
On Base: 98 ft^3
Off Base: VDHR, 2.2 ft^3 (see Chapter 34)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: None
Compliance Status: No associated documentation was available for assessment. Some associated records may be located at the USACE Norfolk District, but this was not confirmed during a telephone conversation with Corps personnel.

Human Skeletal Remains: None

Status of Curation Funding: Curation of archaeological collections is financed through funds appropriated by the U.S. Army.

Date of Visit: May 2, 1995

Points of Contact: Dennis Mrozkowski, Curator, and Kathy Rothrock, Museum Specialist

Fort Monroe was built in 1819, in the shape of an irregular polygon with seven fronts and seven bastions. It is the largest stone fort in the United States and has the nickname "Gibraltar of the Chesapeake." Fort Monroe is one of the few federal military installations in the south that did not fall to Confederate forces at the outbreak of the Civil War. During WW II, it was the headquarters for Harbor Defense, Chesapeake Bay, and later became the headquarters for U.S. ground forces. Fort Monroe is the third-oldest continuously operating fort in the United States.

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Monroe. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations on the installation. Archaeological collections are currently housed in two repositories in Virginia, including the installation. Fort Monroe archaeological collections that are housed on base include 98 ft^3 of artifacts from historical-period contexts (Table 7).

Fortifications have been present at the current location of Fort Monroe since the 1600s. The current stone fort was constructed, beginning in 1818, as a coastal artillery defense battery. Today, the original stone structure is a major historic attraction located on the south end of what is now a much-larger military installation. Fort Monroe is home to the Army's Training and Doctrine Command (TRADOC).

Fort Monroe stores archaeological collections in the Casemate Museum, which is located

Table 7. Summary, by Volume, of Historical-Period Material Classes Present in Fort Monroe Collections at the Installation

Material Class	%
Glass	64
Ceramics	20
Metal	15
Brick	< 1
Faunal remains	< 1
Leather	< 1
Total	100

in a portion of the original fortification (Figure 20). The fort is polygonal, with multiple bastions jutting out to form corners. The exterior is surrounded by a stone-lined moat, and there are multiple structures within the fort. The fort's walls are formed by a series of adjacent rooms linked internally and connected with stone archways. These rooms within the fort's walls are termed "casemates"; a linked, linear series of these composes the Casemate Museum. The museum is technically located in Casemate 20, and includes office space, exhibit space, and storage space that total more than 14,000 ft^2. It should be noted that the cell of captured Confederate President Jefferson Davis is within the museum.

Assessment

Structural Adequacy

The original fortification dates to the period 1818–1834. The foundation and exterior walls are primarily composed of brick and stone. Bricks have been removed from several sections of the fortification roof and been replaced with poured concrete. On many original sections, however, roofing remains composed of bricks that are covered with earth. The museum has had multiple renovations and expansions since 1951, the latest during 1982–1983 when several rooms were added. There is only one floor for the entire fortification. Multiple windows are present in the inward-facing walls of the museum, and approximately one-third as many face outward to the fort's exterior. Windows and their frames were replaced approximately two years prior to the assessment team's site visit. The structure is solid, but there are multiple cracks in the brick walls and roofs. In addition, there is some water seepage from the brick roof, where it is overlain by earth.

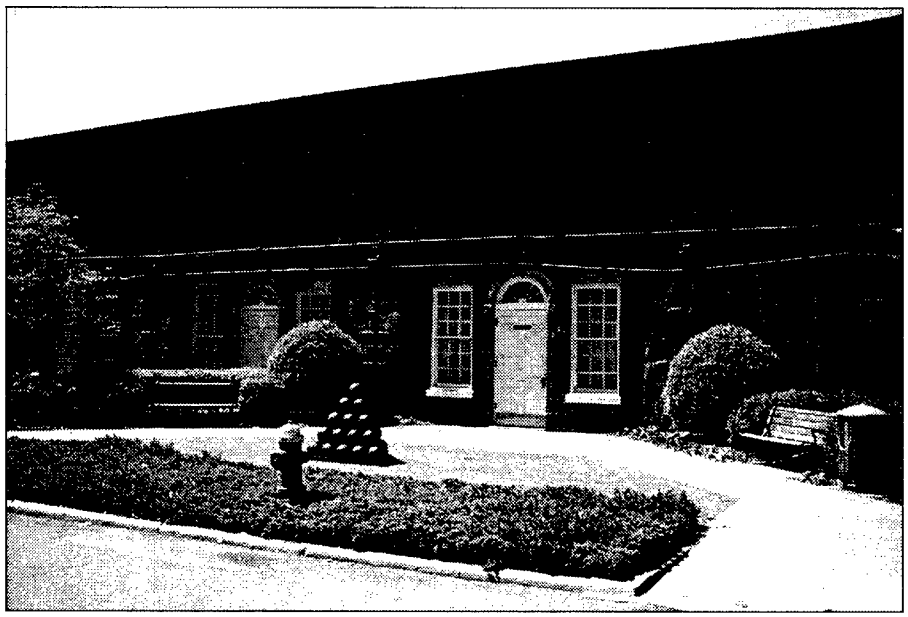

Figure 20. Exterior of the Casemate Museum, Fort Monroe.

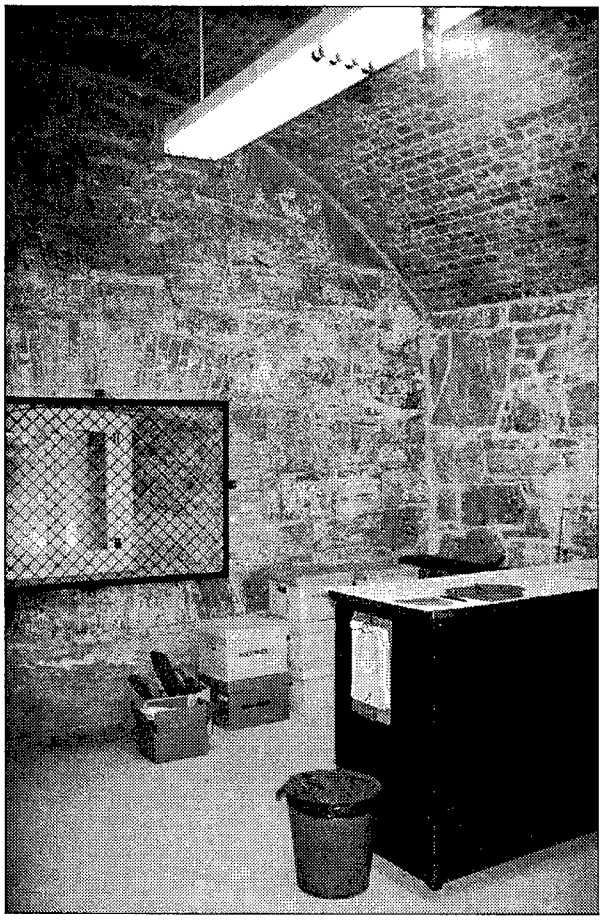

Figure 21. Collections storage area for arms within the Casemate Museum.

The collections storage area is a series of casemates separated from the offices and exhibit sections of the museum by a wood-panel door (Figure 21). Total space for collections storage measures 3,600 ft^2, and includes four casemates and one arms room. The arms room is separated from the collections storage area by a metal-panel door. The interior sections of the collections storage area are divided by brick archways. There are four wood-panel doors in the collections storage area that open to the exterior of the museum. The collections storage area is filled to approximately 90 percent capacity with archaeological and ethnographic collections, each composing approximately one-half of the materials.

Environmental Controls

The Casemate Museum operates a zoned central heating and air-conditioning system. Humidity is monitored twice daily with hygrometers and is regulated using fans and dehumidifiers. Temperature and humidity levels are maintained at 65–70° F and 55–60 percent, respectively. The environmental controls are not equipped with dust filters. The facility is regularly maintained by post engineers and cleaned weekly by curatorial staff. Lighting is by fluorescent tubes equipped with UV filters. Windows are covered by unbleached muslin cloth, and transoms over exterior doors are covered with UV-protectant sheets.

Pest Management

The Casemate Museum has an integrated pest-management program that includes monitoring and control (Figure 22). Sticky traps are the primary monitoring method. Pest control, usually in the form of sprays and "bombs," is conducted by the post entomologist. When needed, poisons are used in restricted areas. At the time of the site visit, the farmost casemate in the collections storage area had a serious problem, as birds had infiltrated the area, died, and were a health concern. An archway was covered and quarantined to protect against disease. It should be noted, however, that this was reportedly an isolated occurrence.

Security

Comprehensive measures are used to secure the museum. Access to the fort is restricted to four bridges crossing the moat—three for vehicles, one for foot traffic. The museum is secured by intrusion alarms wired into the military police. Additionally, police monitor sound and contact points on perimeter doors, and are quick to respond when contact points are broken. During business hours, a contracted security guard monitors closed-circuit television within the museum. Exterior doors are equipped with key and dead bolt locks, and exterior windows are nailed shut. The arms room located within the collections storage area has a padlock and a separate security system that is also monitored by the military police. Access to the collections storage area is controlled by staff, as the only entrance to the area through the museum is through the offices.

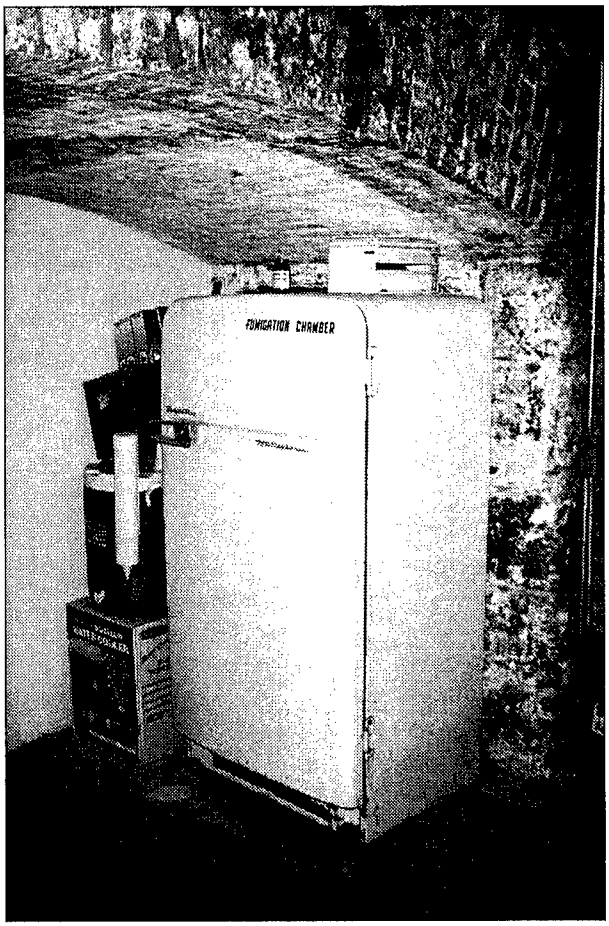

Figure 22. View of the fumigation chamber at the Casemate Museum.

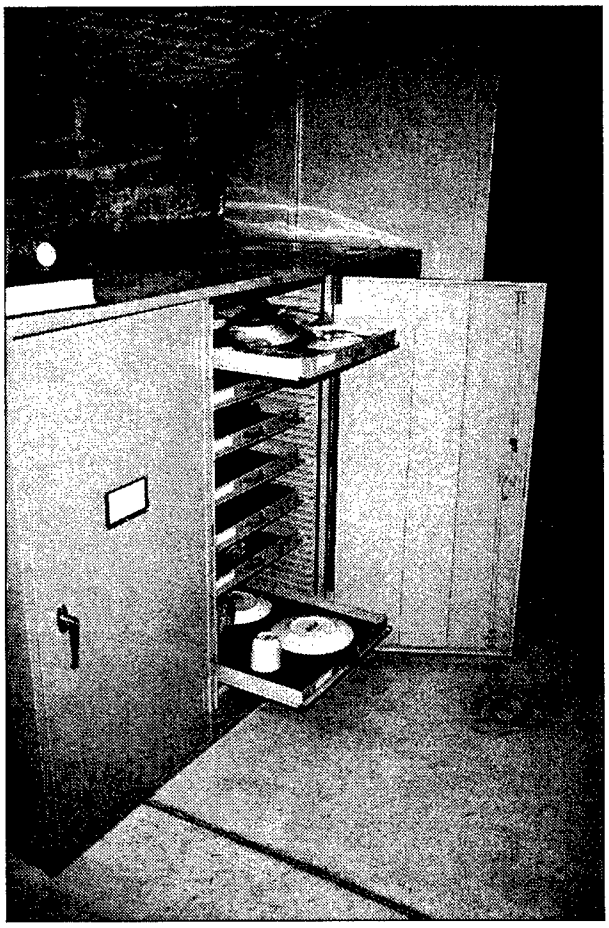

Figure 23. Historical-period ceramic artifacts are protected in lined museum cabinets.

Fire Detection and Suppression

Fire-detections systems consist of smoke detectors and manual fire alarms wired into the installation fire station. There are multiple fire extinguishers; several are located in the collections storage area. The staff maintains that, as an exception to policy, Fort Monroe has the authority and approval to not be equipped with a sprinkler system because the brick-and-stone structure would be structurally damaged by water-based fire-suppression systems.

Artifact Storage

Storage Units

Archaeological materials recovered on Fort Monroe and housed at the installation total 98 ft^3. The 12.5 ft^3 of materials recovered from a survey conducted on-post were stored in primary containers on the floor of the arms room at the time of the assessment team's site visit. The remaining portions of the Fort Monroe collections (85.5 ft^3) consist of historical-period archaeological materials recovered from the moat in several dredging projects, and are stored in primary containers on various types of shelving in the collections storage area (Figure 23). Primary containers are on top of enameled-metal lockers, cabinets, map cases, and shelves, and painted-plywood shelves. Over half (54.9 ft^3) of the collections are stored loose on open, painted-plywood shelves. Material classes present in the collections are summarized in Table 7.

Primary Containers

Primary containers in the collections primarily consist of acid-free-cardboard boxes. In the survey collection stored in the arms room, however,

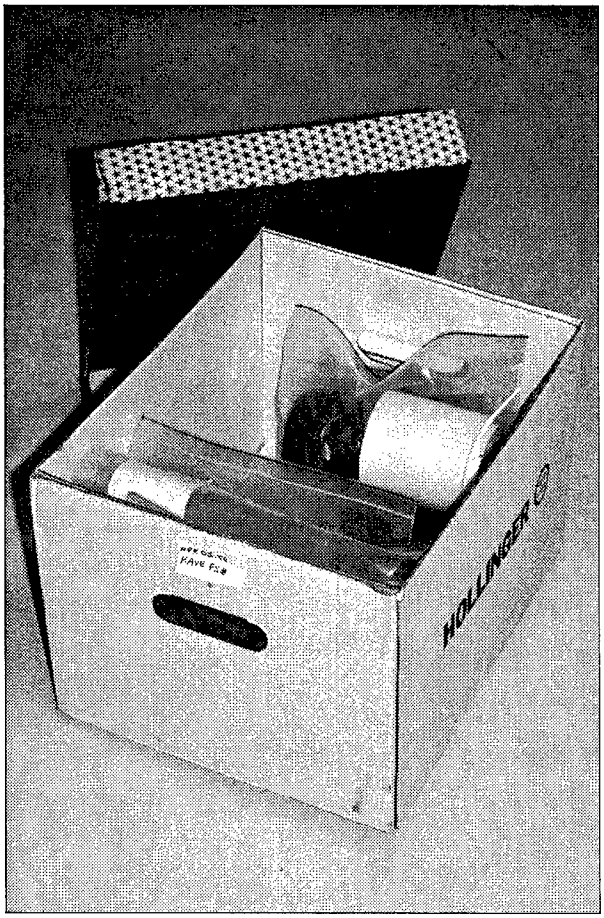

Figure 24. Cardboard boxes and zip-lock plastic bags are used to store artifacts on Fort Monroe.

four of the primary containers are acidic-cardboard boxes. The primary containers housing the survey collection, if labeled, are labeled directly with the installation name in marker. Primary containers housing the moat collections are labeled with acidic-paper tags taped on the side of the box. Information consists of inclusive Fort Monroe catalog numbers typed on the paper tag. Over half (54.9 ft^3) of the archaeological collections are stored loose on foam sheets laid on the bottom of painted-plywood shelves.

Secondary Containers

Within the moat collection, secondary containers are either not present or consist of acid-free-construction-paper dividers or Styrofoam "peanuts." Secondary containers for the survey collection are either not present or consist of zip-lock plastic bags (Figures 24 and 25). The zip-lock plastic bags generally have interior, acidic-paper tags with provenience recorded in pen. Table 8 outlines the percentages of secondary-container types in the on-base collections.

Laboratory Processing and Labeling

All of the artifacts have been cleaned, but none have been labeled. Ninety-five percent of the artifacts are sorted by material class.

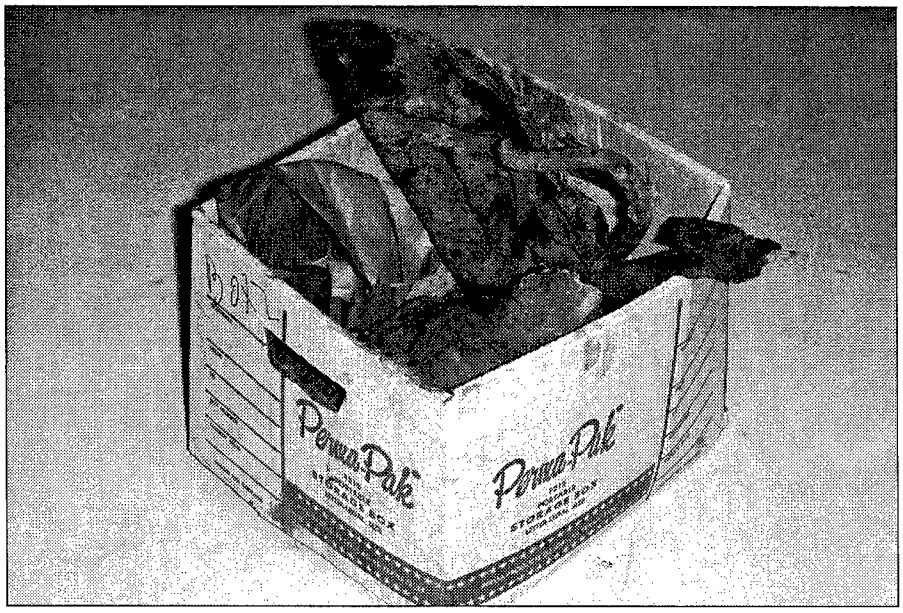

Figure 25. Oversized metal artifacts are stored loose within a cardboard box.

Table 8. Summary, by Volume, of Secondary Containers Used for Fort Monroe Collections at the Installation

Container Type	%
Loose, on foam sheets	62
Acid-free-construction-paper dividers	27
Zip-lock plastic bags	7
Styrofoam "peanuts"	4
Total	100

Human Skeletal Remains

The Casemate Museum does not currently curate any human skeletal remains recovered on the installation.

Records Storage

Fort Monroe does not currently curate any documentation associated with archaeological collections recovered on the installation.

Collections-Management Standards

Registration Procedures

Accession Files

Archaeological and ethnographic materials are accessioned into the museum by regulation of the Army's Center for Military History.

Location Identification

The locations of artifacts within the repository are identified in the accession files.

Cross-Indexed Files

Files are cross-indexed by donor's name, catalog number, and subject matter (Figure 26).

Published Guide to Collections

No guide to the collections has been published.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is not a suitable method of site-record administration for Fort Monroe, as most collections at the museum are unprovenienced donations.

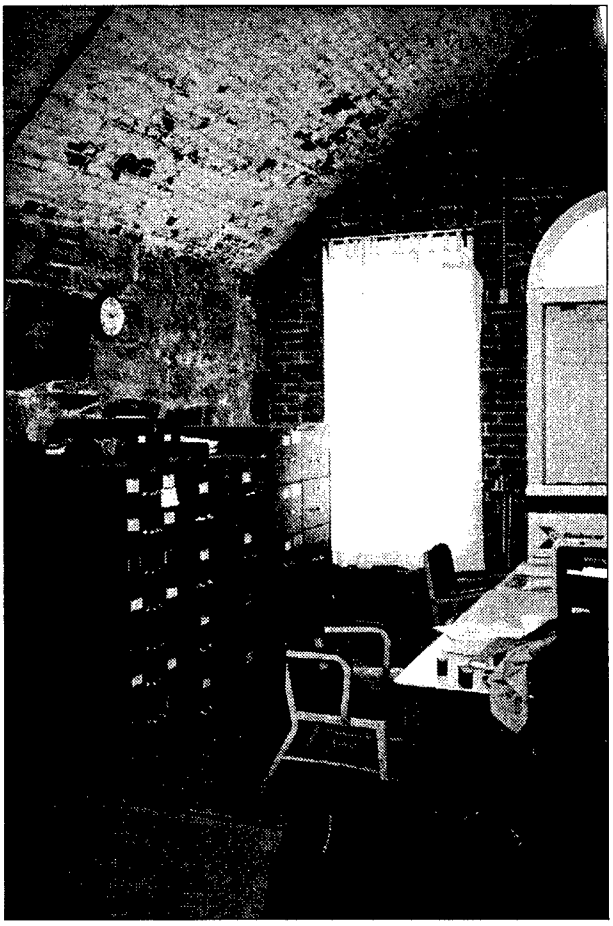

Figure 26. Office area in the Casemate Museum where unassociated records are stored in metal file cabinets.

Computerized Database Management

The Universal Site Artifact Management System (USAMS) is used. In addition, MultiMate is used for word processing. The system is not attached to a network, but to individual machines. Records are stored on the hard drives and on disks. At the time of the evaluation, Fort Monroe staff procedure was to send collections data to the Center for Military History, Washington, D.C. However, this procedure will soon be done electronically when all military museums are linked to a central, mainframe computer located at the Center for Military History.

Written Policies and Procedures

Minimum Standards for Acceptance

There are formal standards for the transfer-of-title of collections; most accessions are donations.

Curation Policy

There is a formal curation policy that addresses the receipt, processing, and use of materials. The policy is specified in the standard operating procedures for the museum.

Records-Management Policy

There is a formal records-management policy addressing the guidelines and standards for curation of records. The policy is specified in the standard operating procedures for the museum.

Field-Curation Procedures

There are no formal field-curation guidelines.

Loan Policy

There are formal loan procedures specified in the standard operating procedures of the museum.

Deaccessioning Policy

There is a formal deaccessioning policy specified in the standard operating procedures of the museum and in Army Regulation 870-20.

Inventory Policy

Army Regulation 870-20 directs military museums to conduct inventories every two years.

Latest Collection Inventory

Collections were last inventoried in 1993.

Curation Personnel

In the Army museum system there is no title or position for museum director. Dennis Mrozkowski is the curator, and Kathy Rothrock is a museum specialist directly in charge of the collections.

Curation Financing

Curation is financed by directly appropriated Army funding.

Access to Collections

Access to the collections is limited to staff, and to researchers by permission.

Future Plans

Future plans include providing additional storage space for the collections.

Comments

1. The walls and roof sometimes leak water, as the brick-and-stone roof is directly overlain by earth.

2. The museum is not equipped with a sprinkler system for fire suppression, as installation engineers contend the activation of such a system would damage the interior of the brick-and-stone structure.

3. The museum has an integrated pest-management program; however, at the time of the assessment team's site visit, a dead bird problem had resulted in the quarantine of a casemate.

4. Several primary containers housing survey collections are acidic-cardboard boxes; all survey collections are stored on the floor of the arms room. Documentation associated with this survey may still be in the possession of the surveyor, the USACE Norfolk District.

Recommendations

1. Ensure that collections are stored off the floor and away from walls that have seepage problems. If necessary, cover collections with large sheets of plastic to prevent damage from water seepage through the roof.

2. Rebox and rebag artifacts needing rehabilitation into standard-sized, acid-free-cardboard boxes and archival-quality, zip-lock polyethylene bags. However, corrugated-plastic boxes are preferable for the storage of artifacts because of the casemate structure's seepage problem.

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12

Fort Myer

Arlington, Virginia

Installation Summary

Volume of Artifact Collections: 0.9 ft^3
On Base: None
Off Base: UDCAR, 0.9 ft^3 (see Chapter 32)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 0.06 linear foot (0.75 linear inch)
On Base: None
Off Base: UDCAR, 0.75 linear inch (see Chapter 32)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Fort Myer is located on land that was once owned by Martha Custis Washington's son, John Parke Custis. The land was confiscated in 1861 by the federal government and a portion became what is now Arlington Cemetery. The remainder of the land became Fort Whipple. The Signal Corps took over Fort Whipple by the late 1860s. Brigadier General Albert J. Myer, after whom the fort was renamed, was the Army's first Chief Signal Officer and Commander at Fort Whipple. The first military test flight of an aircraft was made from the fort's parade grounds in September 1908 by Orville Wright. During WW II, Fort Myer served as an in- and out-processing station. Fort Myer falls under the command of the Military District of Washington, which is headquartered at Fort McNair. By September 1995, Fort Myer was scheduled to gain the Military District of Washington staff activities from Cameron Station, Virginia.

In June 1994, St. Louis District personnel performed background archaeological research VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Myer. At least one archaeological site has been recorded on Fort Myer. Fort Myer archaeological collections are currently housed in one repository in Delaware. Because no Fort Myer archaeological collections are being curated at the installation, collections-management standards for the base will not be discussed. Furthermore, no reports associated with archaeological investigations on Fort Myer were available for review.

13

Fort Story

Virginia

Installation Summary

Volume of Artifact Collections: 2.1 ft^3
On Base: None
Off Base: VDHR, 1.1 ft^3 (see Chapter 34); SouthArc, 1.0 ft^3 (see Chapter 29)
Compliance Status: Collections stored at SouthArc require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 0.04 linear foot
On Base: None
Off Base: VDHR, 0.5 linear inch (see Chapter 34)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

In 1914, the Commonwealth of Virginia gave land to the federal government to enable the construction of fortifications on the coast. The fort that was constructed was named in honor of General John Patton Story, a noted coastal-artillery officer. During WW I, Fort Story was integrated into the Coast Defense, Chesapeake Bay, which also included Fort Monroe and Fort Wool. In 1925, Fort Story was placed under the jurisdiction of the Harbor Defense Command. After several years of inactivity, Fort Story underwent extensive development in 1941. A transition occurred in 1944, when Fort Story went from being a heavily fortified coast-artillery garrison to a convalescent hospital for returning veterans. In 1946, the hospital closed and amphibious training began to take place on the installation. Fort Story was declared a permanent installation in 1961, and was redesignated as a Class I subinstallation of Fort Eustis in 1962.

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Story. Archaeological sites have been recorded on Fort Story lands, and a number of reports have been generated as the result of archaeological investigations on the installation. Archaeological collections are currently housed in two repositories, one in Virginia and one in Florida. Because no Fort Story archaeological collections are being curated at the installation, collections-management standards for the base will not be discussed.

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14

Radford Army Ammunition Plant

Radford, Virginia

Installation Summary

Volume of Artifact Collections: 20 ft^3
On Base: None
Off Base: FLSHA, 14.5 ft^3 (see Chapter 18); WMCAR, 5.5 ft^3 (see Chapter 35)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 0.6 linear foot (7.0 linear inches)
On Base: None
Off Base: FLSHA, 2.0 linear inches (see Chapter 18); WMCAR, 5.0 linear inches (see Chapter 35)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

Construction began on the Radford Ordnance Works—a site where Bryan McDonald made gun powder for the Revolutionary War—in 1940. Radford Army Ammunition Plant (Radford) became the first government-owned, contractor-operated facility and was placed on standby status after WW II. The installation was reactivated during the Korean War, and has remained in operation since. Radford consists of two sites: the Radford Unit, which handles the manufacturing operations, producing explosives and propellants, and the New River Unit, a propellant-storage site.

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Radford. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations on the installation. Archaeological collections were assessed in two repositories, one in Virginia and one in Tennessee. Because no Radford archaeological collections are being curated at the installation, collections-management standards for the base will not be addressed.

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15

Vint Hill Communications and Electronics Support Activity

Warrenton, Virginia

Installation Summary

Volume of Artifact Collections: 1.1 ft^3
On Base: None
Off Base: VCUARC, 1.1 ft^3 (see Chapter 33)
Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 0.3 linear foot (4.0 linear inches)
On Base: None
Off Base: VCUARC, 4.0 linear inches (see Chapter 33)
Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are not funded at this installation.

In June 1942, the federal government purchased all or part of 11 separate farms."Vint Hill Farms" was named by a previous owner of the land. In 1942, troops arrived from Fort Monmouth and Fort Hancock, New Jersey, to garrison the post. During WW II, it served as a Signal School, Signal Training center, and Refitting Station for selected signal units returning from combat prior to further overseas deployment.

In June 1994, St. Louis District personnel performed background archaeological research at VDHR that included a review of all pertinent archaeological site forms, reports, and manuscripts for Vint Hill. No archaeological sites have been recorded on Vint Hill; however, artifact collections and at least one report have been generated as the result of archaeological investigations on the installation. Archaeological collections were assessed in one Virginia repository. Because no Vint Hill archaeological collections are being curated at the installation, collections-management standards for the base will not be discussed.

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16

F. E. Warren Air Force Base

Cheyenne, Wyoming

Installation Summary

Volume of Artifact Collections: > 156.0 ft^3
On Base: 156 ft^3
Off Base: Wyoming State Museum [WSM], Cheyenne, unknown amount (see below)
Compliance Status: Collections stored at Warren AFB require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 52 linear feet (628 linear inches)
On Base: 628 linear inches
Off Base: WSM, unknown amount (see below)
Compliance Status: Associated documentation is generally in very good condition. Original documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: All curation activities are funded through the Warren AFB environmental-compliance budget and through funds granted through the DoD's Legacy Resource Management Program.

Dates of Visits: February 28–29, 1996

Point of Contact: Rick Bryant

Warren AFB is located in southeastern Wyoming, outside of Cheyenne, on land originally allocated to Fort D. E. Russell (Fort Russell) in 1867 as a calvary post. The name was changed in 1930, by presidential decree, to Fort Francis E. Warren (in honor of Senator and Governor Warren, who was a Congressional Medal of Honor winner during the Civil War). During WW II, Fort Warren was used as the Quartermaster Training Center, for the Women's Auxiliary Army Corps, the Transportation Corps, and as a prisoner-of-war camp. In 1947, the Army relinquished the fort to the Air Force and it became the 463rd AFB unit, Aviation Engineer School. In 1948, it was redesignated the Air Force Technical School, Air Training Command. The name changed in 1949 to F. E. Warren AFB, with aircraft stationed at the Cheyenne Municipal Airport. As a result, Warren AFB is the oldest continuously active Air Force base in the United States. In 1984, Peacekeeper support facilities were added; the base became part of the U.S. Strategic Triad in 1986. ACC was activated in 1992, and the following year the Air Force Space Command was activated with the Headquarters (HQ), 20th Air Force, as the host.

In January 1995, St. Louis District personnel performed background archaeological research at the Wyoming Cultural Records Office, Laramie, that included a review of all pertinent

archaeological site forms, reports, and manuscripts associated with Warren AFB. Archaeological sites have been recorded, and a number of reports have been generated as the result of archaeological investigations on the installation. Archaeological collections are currently housed in two repositories in Wyoming, one of these being the installation. An unknown amount of artifacts and associated documentation are currently in deep storage at WSM, Cheyenne. These artifacts and records are scheduled to be sent to the curation facility on Warren AFB.

Originally established as Fort Russell in 1867, the historical-period military district within Warren AFB has an inclusive site number of 48LA71. Individual, significant sites within this district are designated with letters that range from 48LA71a to 48LA71zzz. In addition, prehistoric and historical-period archaeological sites located outside the historical-period district, but within the boundaries of Warren AFB, have been assigned standard, state-designated, trinomial site numbers.

The Warren AFB curation facility, Building 261, houses approximately 156 ft^3 of archaeological artifacts and 51 linear feet of associated documentation from archaeological investigations on the installation. These collections have been brought together from the various repositories that formerly stored the artifacts. The Warren AFB artifact collections consist primarily of materials from historical-period contexts, but include some prehistoric materials (Table 9). These collections were not assessed at the time of the visit because all of the museum's collections were in storage while the museum underwent asbestos removal. The collections were to be returned to Warren AFB when the museum moved back into their structure and unpacked.

Building 261, the curation facility, was renovated in 1992 with a grant from the DoD's Legacy Resource Management Program. The curation facility is located within an earthen hill (Figure 27). Originally used as a root cellar at around the turn of the century, the structure was used until 1992 as a storage facility. Warren AFB also has a small archeology center on base (Figure 28) that displays archaeological dioramas and approximately 13 prehistoric lithics (flakes and other tools).

Table 9. Summary, by Volume, of Material Classes Present in Warren AFB Collections at the Installation

Material Class	%
Prehistoric	
Lithics	5
Soil	4
Faunal remains	3
Botanical	2
Ceramics	1
Historical-period	
Glass	52
Metal	24
Ceramics	6
Other[a]	3
Total	100

[a] "Other" includes wood, paper, Styrofoam, brick, faunal remains, leather, and a button.

Assessment

Structural Adequacy

Building 261, the curation facility, encompasses approximately 3,077 ft^2 and was completely renovated in 1992 to be used as a curation facility. The structure has a poured-concrete-slab foundation, exterior walls, and roof. The entire structure is covered with approximately 3 feet of dirt and is within an earthen mound (Figure 29).

There are four collections storage areas in the structure, which is also equipped with rest rooms, two storage rooms, and a mechanical-and-utility room. All of the rooms have concrete floors and exterior walls. Interior walls constructed of plasterboard and plaster were added in 1992. There are no windows in this structure. Collections Storage Area 1 is approximately 552 ft^2 and is used for office space, records storage, and research. Carpet covers the concrete floor. Three wood-panel doors lead to an exterior hall and Collections Storage Areas 2 and 4. Collections Storage Area 2 encompasses approximately 560 ft^2 and is used almost exclusively

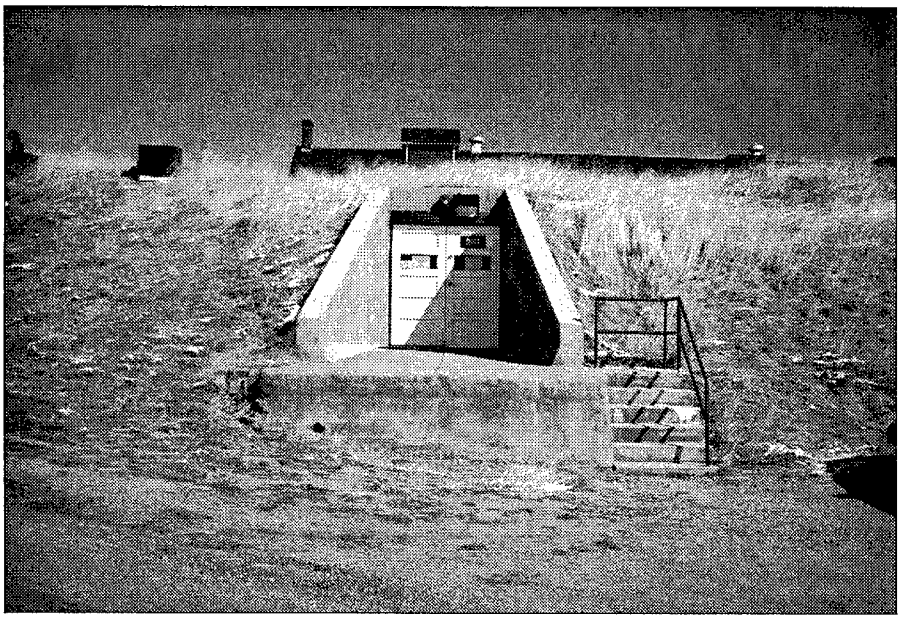

Figure 27. The entrance to Building 261, the curation facility on Warren AFB, appears to lead into a hill. Approximately 3 feet of earth cover this facility.

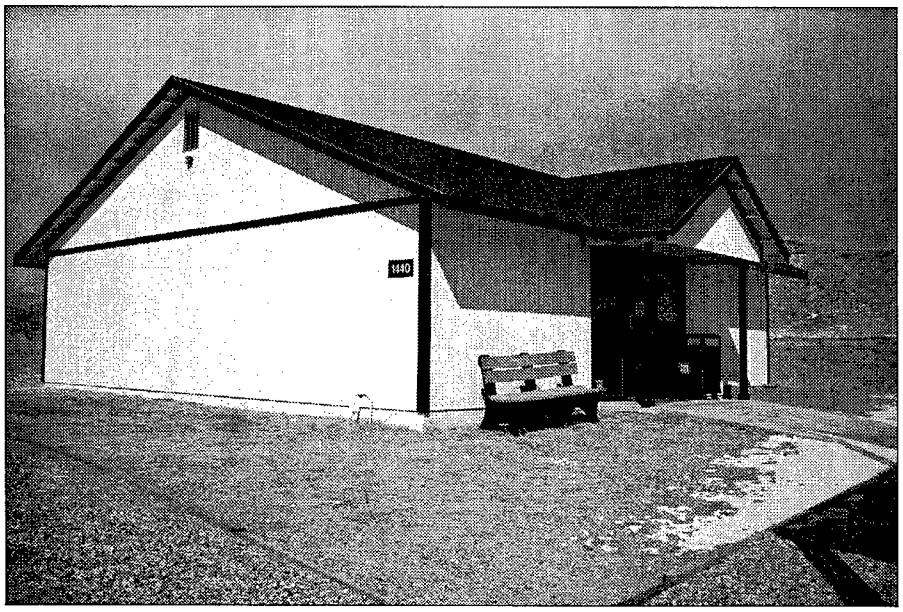

Figure 28. The exterior view of the archaeology center on Warren AFB, Building 1440.

for artifact storage. The concrete floor is painted and the two doors lead to Collections Storage Areas 1 and 3. Collections Storage Area 3 encompasses approximately 368 ft^2 and is used for archives and map storage. The only door is a hollow-core, metal vault door that has a dial combination lock. The concrete floor in this room is carpeted. Collections Storage Area 4 encompasses approximately 423 ft^2 and is used as the laboratory where artifacts are processed and photographed. Like Collections Storage Area 1, the concrete floor is covered with linoleum. The two storage rooms, mechanical-and-utility room, and rest rooms are located behind closed, locked doors and adjoin Collections Storage Area 4.

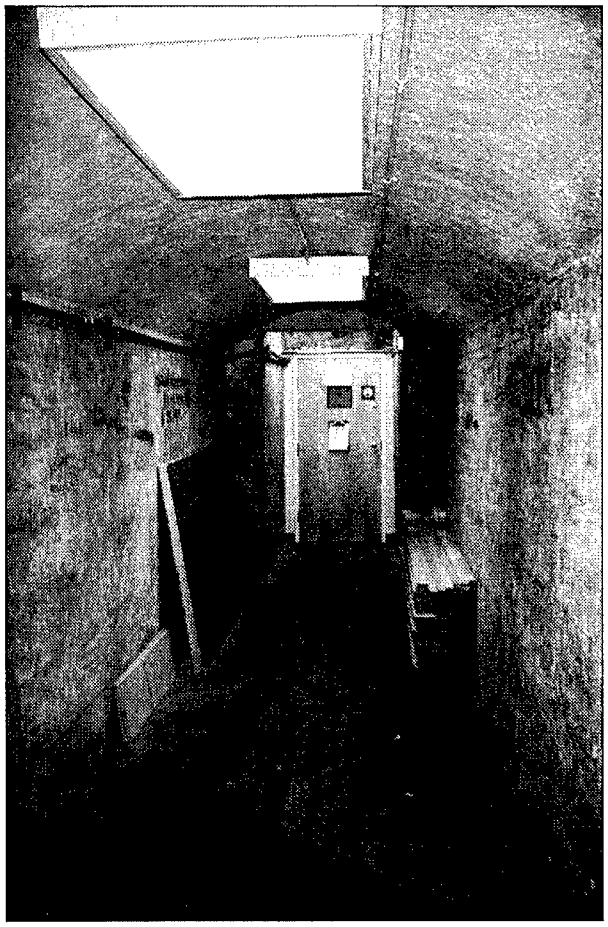

Figure 29. The exterior door of Building 261 leads into a concrete tunnel that has a second locked door securing entrance to the curation facility. The concrete walls have graffiti dating to 1907 that was discovered during the rehabilitation of the facility in 1992.

Environmental Controls

Building 261 has a gas-powered HVAC system that includes humidity monitoring and control and dust filtration. This system is located in the mechanical-and-utility room adjoining Collections Storage Area 4. Temperature and relative humidity levels in the building are kept at 65–68° F and 40–50-percent relative humidity. The base maintains the facility's systems, while Rick Bryant, the base's Historic Preservation Officer, keeps the facility clean. All of the utility systems were added in 1992. Fluorescent lights lack UV filters. Only Collections Storage Area 4 and the rest rooms have running water. The environmental controls are the same for all collections storage areas.

Pest Management

A pest management-program has been implemented at this facility. Rick Bryant inspects all of the collections storage areas monthly and notes his findings in a log book. He has never found any evidence of pest infestation.

Security

All personnel and visitors must pass through a security gate to get on base. Building 261 is wired with an intrusion alarm. The only exterior door has both a key lock and a dead bolt lock, and leads into a concrete hallway to a second locked door that also has both a key and a dead bolt lock. The base police station is located across the street from the facility.

Fire Detection and Suppression

Building 261 has a dry-pipe sprinkler system installed throughout all rooms of the facility. All sprinkler heads are equipped with heat sensors, and a manual fire alarm is located near the exit in Collections Storage Area 1. The two fire extinguishers are inspected on a yearly basis; they were last inspected in October 1995. Both are located in Collections Storage Area 1, near the two interior doors leading to Collections Storage Areas 2 and 4.

Artifact Storage

Approximately 156 ft^3 of artifacts are stored in Collections Storage Areas 2 and 4. Some collections are temporarily stored in Collections in Area 4 for processing, labeling, and rebagging. Refer to Table 9 for a summary of material classes present in the Warren AFB collections.

Storage Units

Collections are stored on baked-enamel, metal, adjustable shelving units, half of which are lined with inert ethafoam. The shelving units each have five shelves and measure 6 × 3 × 7 feet

(w x d x h). One of these units is located in Collections Storage Area 4, where boxes are temporarily placed while being processed. All of the shelving units are draped with heavy sheets of plastic that are taped together at the seams to protect the collections from dust (Figure 30). A glass case in Collections Storage Area 1 displays glass and ceramic bottles that were recovered from sites on base (Figure 31).

Primary Containers

Most (51%) of the artifact collections are stored in acidic-cardboard boxes of various sizes. A small percentage (5%) of the collections are stored in acid-free-cardboard boxes. All boxes are labeled directly with a marker or have adhesive paper labels. Approximately 28 percent of the collections are stored loose on the shelves without any primary or secondary containers, while 16 percent of the collections are on display either in the glass case in Collections Storage Area 1 or within a sealed exhibit at the base's archaeology center.

Secondary Containers

A variety of secondary containers house the artifact collections. Most (54%) of the collection is stored without any secondary containers. Approximately 33 percent of the collections are stored in various types of plastic bags—ranging from zip-lock, 4-mil bags to thin, white trash bags. Percentages of secondary-container types in the collection are given in Table 10. When labels are on secondary containers, they consist of stamped labels with information written directly in pen, tie-on tags, or acidic-paper inserts written in pencil.

Laboratory Processing and Labeling

Most (67%) of the artifacts have been cleaned and nearly all (99%) have been sorted by material class. Only 10 percent of the collection has been labeled directly with ink on the surface of the artifacts.

Human Skeletal Remains

There are no human skeletal remains associated with the Warren AFB archaeological collections.

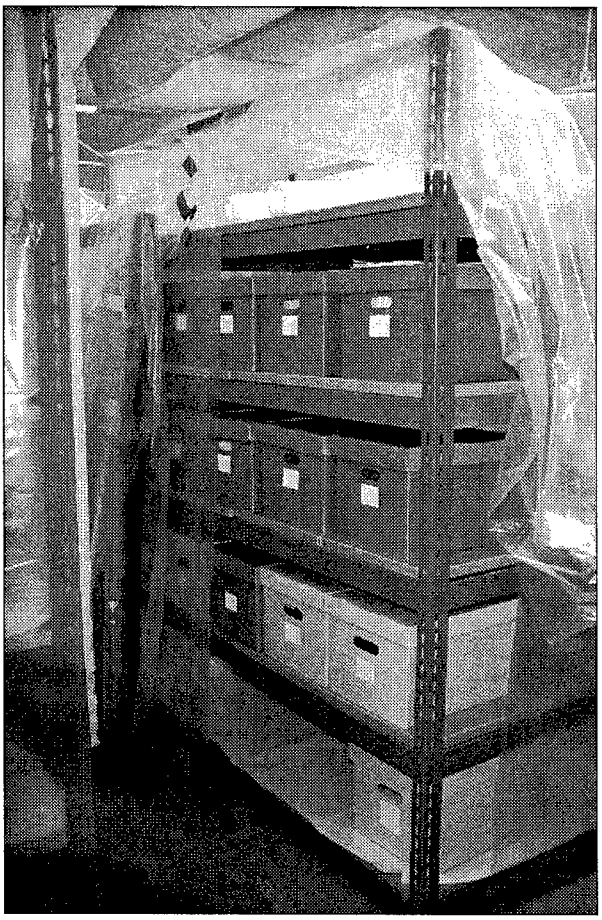

Figure 30. Collections are stored in cardboard boxes on metal shelving units in Collections Storage Area 2. Note that some of the shelves are lined with sheets of ethafoam and covered with heavy sheets of plastic to protect against dust.

Records Storage

Approximately 52 linear feet of associated documentation is located in Collections Storage Areas 1, 2, and 3. A finding aid has not been produced for the records collections. The boxes and binders are labeled with contractor and project. Documentation is in fairly good condition, however, contaminants that are detrimental to the long-term preservation of the records are present (e.g., paper clips, staples, and rubber bands).

Paper Records

The 42 linear feet (508.5 linear inches) paper records in the collections include administrative, background, survey, excavation, and analysis

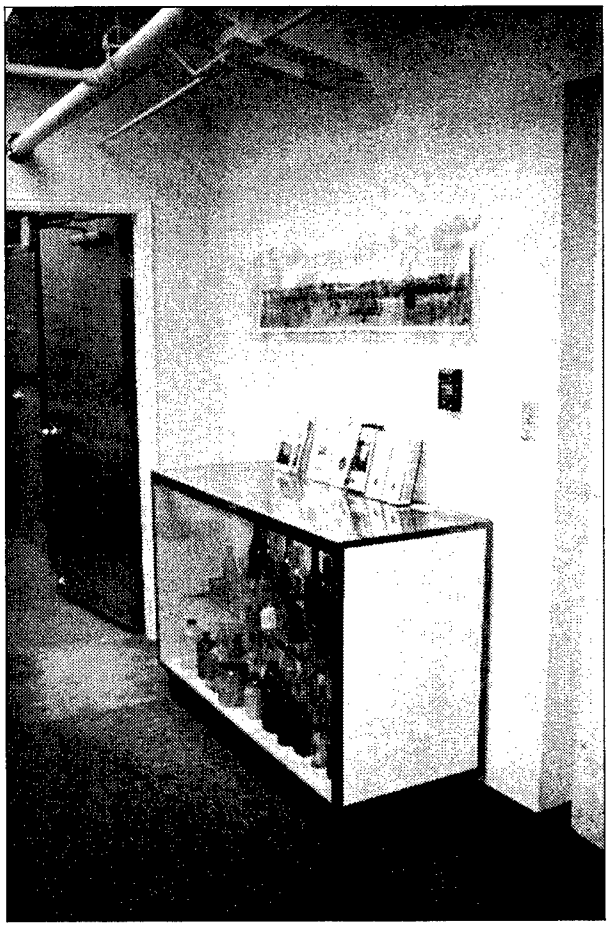

Figure 31. A display case in Collections Storage Area 1 houses historical-period glass and ceramic bottles.

records, and field notes. Paper records are stored in acid-free boxes in Collections Storage Area 2 (Figure 32) and on wood shelves in Collections Storage Area 1. Boxed records are generally stored in manila files labeled with adhesive tags written on in marker. Some of the records not in files are bound together with rubber bands. Records in Collections Storage Area 1 are kept in plastic-covered, three-ring binders (Figure 33). Different types of records are separated with tabbed, labeled pages. Binders stand upright and are labeled and arranged by project. Artifact catalogs are filed in a standard, four-drawer, metal file cabinet. The acid-free files are labeled directly in red pencil.

Photographic Records

Approximately 5.7 linear feet (68 linear inches) of black-and-white photographs, negatives, slides, contact sheets, and color photographs are stored in Collections Storage Areas 1, 2, and 3. Photographic records in Collections Storage Area 1 are stored in a cardboard box on the top shelf of one of the wood shelving units. The color photographs, negatives, and slides are in their original envelopes and, with a photograph log, are bound together by a rubber band. Photographic records stored in Collections Storage Area 2 are housed in acid-free boxes on the metal shelving units and have been placed in archival-quality, plastic sleeves. Some of the black-and-white prints are stored in acidic manila envelopes. A hanging file in a metal file cabinet in Collections Storage Area 3 is labeled "Misc. Archeology Photos." These records consist of color prints, black-and-white prints, negatives, and slides that are loose within the file.

Table 10. Summary, by Volume, of Secondary Containers Used for Warren AFB Collections at the Installation

Container Type	%
Loose	54
Archival & nonarchival plastic bags	33
Paper bags	9
Other[a]	4
Total	100

[a] "Other" includes cloth field bags, plastic vials, acidic-cardboard boxes, bubble wrap, manila envelopes, Styrofoam packages with rubber bands, and aluminum foil.

Maps and Oversized Documents

Approximately 5 linear inches of maps is stored in a flat map case in Collections Storage Area 3. The drawer has a paper insert in the label holder that reads, "Archeology Field Maps," written in orange and black marker. The edges of the maps are frayed, probably from previous inadequate storage conditions. Five inches of large and small maps associated with specific projects are stored with the paper and photographic records in Collections Storage Area 2.

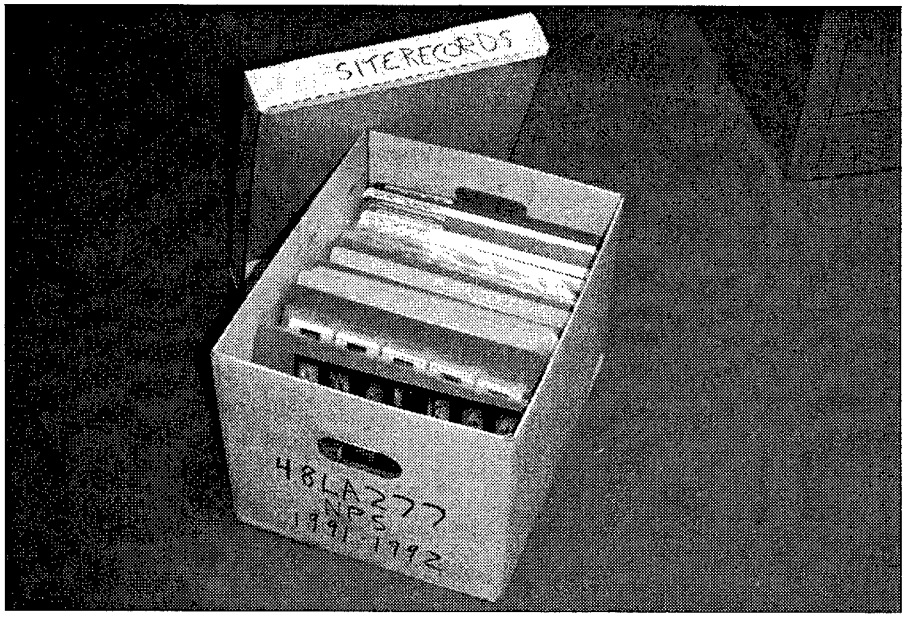

Figure 32. Some of the associated records for Warren AFB have been placed in cardboard boxes and are stored on metal shelving units in Collections Storage Area 2.

Project Reports

Approximately 3.9 linear feet (46.5 linear inches) of reports are stored in Collections Storage Area 1 on the wood shelving units. Multiple copies exist of most of the reports, and include draft and final versions. Most reports are bound, while others are loose or are held together with rubber bands.

Collections-Management Standards

Registration Procedures

Accession Files

Accession files are currently being developed and used for the collections at this facility.

Location Identification

The location of each collection is identified in a computerized directory, a copy of which is printed for easy use.

Cross-Indexed Files

There has never been an apparent need to cross-index any files.

Published Guide to Collections

No guide to the collections has been published.

Site-Record Administration

The State of Wyoming's trinomial site-numbering system is used and administered by the SHPO. The only exceptions are those sites that fall within the historical-period district designated 48LA71. Individual sites are lettered and handled by the base historic preservation officer.

Computerized Database Management

Computerized database management programs provided by the NPS are being implemented and used.

Written Policies and Procedures

Minimum Standards for Acceptance

Collections must have been recovered from Warren AFB.

Curation Policy

A formal curation policy, based on the policy adopted by the NPS, has been developed and implemented.

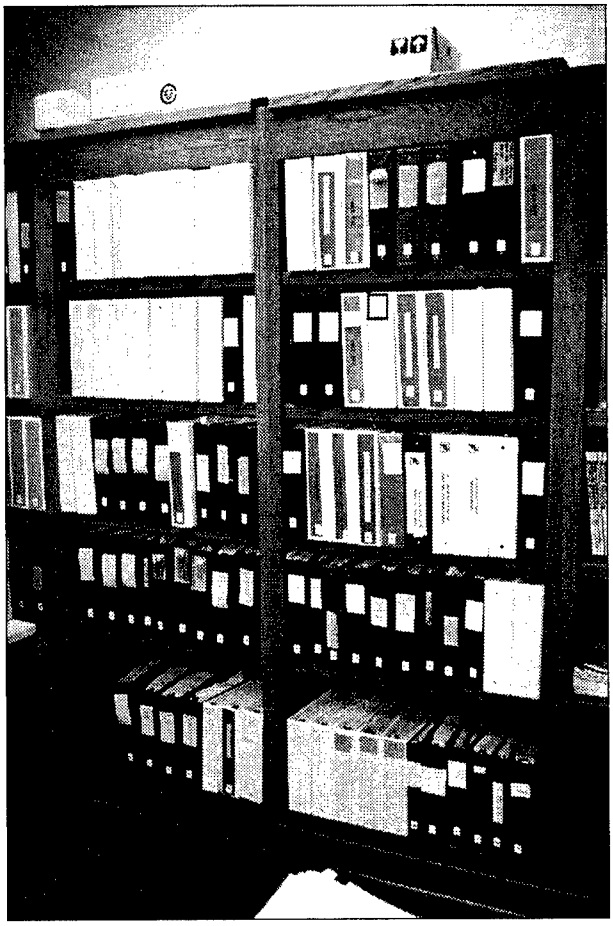

Figure 33. Associated documentation from projects conducted on Warren AFB is stored in plastic-covered three-ring binders on wood shelves in Collections Storage Area 1. Binders are numbered with white adhesive labels.

Records-Management Policy

All of the associated archaeological records are organized and maintained by Rick Bryant.

Field-Curation Procedures

Formal field-curation guidelines have been developed and are used for all fieldwork performed on Warren AFB.

Loan Policy

Formal loan procedures are in place.

Deaccessioning Policy

Collections or artifacts have never been deaccessioned; a deaccessioning policy has not been established.

Inventory Policy

No inventory policy has been established.

Latest Collection Inventory

The date of the latest collection inventory is unknown.

Curation Personnel

A full-time curator is not employed. Bryant, Warren AFB's Historic Preservation Officer, maintains all of the artifact and records collections, manages the archeology center, and spends most of his time reviewing historical-period compliance procedures.

Curation Financing

All curation activities are funded through the Warren AFB environmental-compliance budget and through funds granted through the DoD's Legacy Resource Management Program.

Access to Collections

Access to the collections is controlled and monitored by Bryant. A formal policy regarding access to the collections by researchers has not been created. Interested researchers with legitimate research topics are granted access upon request.

Future Plans

Bryant would like to finish cataloging and processing the collections and to perform a complete inventory of all collections to ensure that everything that is supposed to be present in the collections actually is.

Comments

1. The Warren AFB curation facility is in excellent condition.

2. The facility has an intrusion alarm.

3. The facility has a sprinkler system for fire detection and suppression.

4. An integrated pest-management program is used for pest monitoring and control.

5. The environment is controlled with an HVAC system that includes humidity monitoring and control.

6. Although the artifacts are currently being rehabilitated, 95 percent are not housed in acid-free containers and 90 percent of the artifacts are unlabeled.

7. Records are not curated in archival-quality containers.

Recommendations

1. Rebox and rebag artifacts into acid-free-cardboard boxes and archival-quality, polyethylene bags. Label individual artifacts in indelible ink, and insert acid-free-paper labels into secondary containers.

2. Copy all associated documentation onto acid-free paper and archivally process and store in acid-free boxes. Store an additional copy of documentation at a separate, fireproof, secure location.

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17

Fairfax County Archaeological Survey

Falls Church, Virginia

Repository Summary

Volume of Artifact Collections: 171 ft^3

Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 6.6 linear feet (79.25 linear inches)

Compliance Status: Associated documentation requires partial rehabilitation to comply with existing federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are financed through the Fairfax County budget.

Date of Visit: November 7, 1995

Point of Contact: Michael Johnson

FCAS is a division of the Fairfax County Heritage Resources branch of the Fairfax County government. Offices, as well as curation and research facilities, are located in an old elementary-school structure in Falls Church. The curation facility is located in what was formerly the cafeteria. Approximately 171 ft^3 of artifacts and 6.6 linear feet of associated documentation from Fort Belvoir are housed in this facility. The Fort Belvoir artifact collection consists of materials from both prehistoric and historical-period contexts. Of the total, the largest prehistoric material class in the collection is lithics; the largest historical-period material class consists of metal (Table 11).

Assessment

FCAS encompasses approximately 5,000 ft^2 of the 15,000-ft^2 structure (Figure 34). The FCAS research section consists of a receiving and loading area, an artifact-holding and -washing area, a processing lab, and a temporary artifact storage area. Archaeological artifacts and associated documentation are stored in three collections storage areas. Collections Storage Area 1 houses both artifacts and records. It is adjacent to the downstairs laboratory, which measures approximately 600 ft^2. Collections Storage Area 2, located within the archaeology laboratory, contains prehistoric-site records and measures approximately 300 ft^2. Collections Storage Area 3, located on the second floor within a historical-

Table 11. Summary, by Volume, of Material Classes Present in Fort Belvoir Collections at FCAS

Material Class	%
Prehistoric	
Lithics	45
Faunal remains	4
Other[a]	2
Historical-period	
Metal	15
Glass	13
Brick	12
Ceramics	8
Other[a]	1
Total	100

[a] "Other" includes prehistoric ceramics, shell, and ^{14}C samples.
[b] "Other" includes historical-period leather, charcoal, wood, and mixed/indeterminate.

archaeology laboratory, houses historical-period-site files and measures approximately 600 ft^2. A reports library is adjacent to the historical-period-records storage room.

Structural Adequacy

The structure that houses FCAS is approximately 50 years old. It has a reinforced-concrete foundation and brick exterior walls. The flat roof has leaked in the past, but the leaks have all been repaired. The roof was renovated two years ago. There is some evidence of water damage to the structure, but this too has been repaired. The floor is concrete, with peeling asbestos tiles. The ceiling is reinforced with steel and poured concrete. The repository has a total of two aboveground floors, with the archaeology labs and Collections Storage Areas 1 (Figure 35) and 2 on the first floor and Collections Storage Area 3 on the second floor. Windows are in their original metal frames and are located on all sides of the structure. There is some indication that air leaks into the building through the windows.

Collections Storage Area 1

There are two windows on the east wall, each of which measures approximately 9 × 6 feet. Venetian blinds are kept drawn. The interior door is constructed of wood panels. Plywood covers a preexisting window. Dust covering the floor, shelves, and boxes apparently originates from buckets of unwashed artifacts stored in this room.

Figure 34. Exterior view of FCAS, which is located in the left portion of this building.

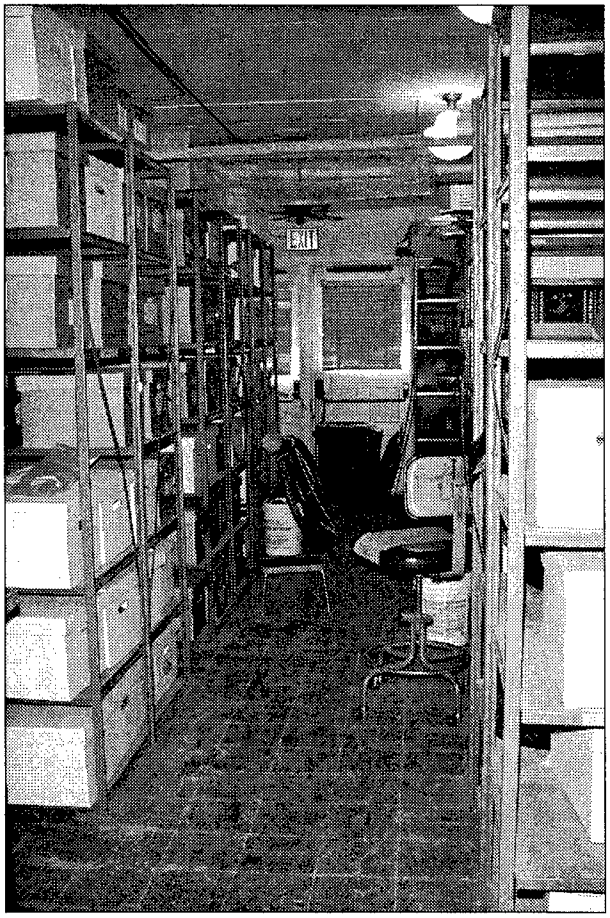

Figure 35. Collections Storage Area 1 is crowded with boxed collections and field equipment. A significant amount of dust covers the peeling asbestos floor tiles. The back, exterior door is kept locked.

Collections Storage Area 2

Collections Storage Area 2 has two interior, wood doors, one of which leads to the hallway and the other into an archaeology laboratory area. Windows are in the same type of frames as the other areas, each measuring 5 × 6 feet. Included within this area are a processing lab and an artifact study area, as well as materials and supplies storage.

Collections Storage Area 3

Two interior doors provide access to the room from the hallway and other offices. Two large windows, each measuring approximately 10 × 8 feet, are the only exterior access points to the room. This room also serves as the historical-period-artifact study area and laboratory.

Environmental Controls

FCAS environmental controls are maintained by county facilities personnel. The structure is equipped with central air-conditioning and heating. The air-conditioning system was installed in 1990. A blower from the central system is located in each room, and staff members have noticed large fluctuations in temperature levels. Dust filters are present on the environmental controls, but humidity is not monitored or controlled. Lighting is provided by fluorescent fixtures that lack UV filters. Other lighting in the storage areas is provided by small desk lamps and natural light. The entire electrical system was renovated in around 1970. Cleaning and maintenance of the collections storage areas are performed by county janitorial staff and supervised volunteers.

Pest Management

No integrated pest-management program is in place for FCAS. The facility is sprayed and fumigated on a quarterly basis. Staff members indicated there are no insect or rodent problems; St. Louis District personnel, however, noted a significant insect infestation on the windowsills of Collections Storage Area 1.

Security

The repository is a public facility with key locks on all doors that are kept locked. Exterior doors are secured with cross-door bars and an electronic security system. There was no evidence of unauthorized access through the windows or doors; however, there have been past episodes of unauthorized entries into the structure, during which some exhibit materials were stolen. Additionally, two incidences of theft by employees have occurred: one of collection materials and one of photographic equipment. The collections located here are valued based upon the project recovery costs.

Fire Detection and Suppression

All fire-detection and -suppression systems are checked by county staff on a yearly basis. Manual fire alarms, smoke detectors, and a fire extinguisher are located in Collections Storage Area 1. The only fire-detection device in Collections Storage Areas 1–3 is a smoke detector.

Artifact Storage

FCAS curates artifact collections that include a wide variety of artifact types and material classes (Figure 36). Refer to Table 11 for a summary of material classes present in the Fort Belvoir collection.

Storage Units

Archaeological collections are stored on adjustable, metal shelving units that each measure 7.1 × 6.5 × 8 feet (w × d × h) and are arranged tightly in rows.

Primary Containers

Approximately 171 ft^3 of archaeological artifacts recovered from Fort Belvoir are stored in acid-free-cardboard boxes with telescoping lids. The boxes are arranged four to each shelf, making access to them somewhat difficult. Labels are written directly on the boxes in pencil; label information consist of box number and site number.

Secondary Containers

Nearly all secondary containers for the artifact collections (99%) are zip-lock, 4-and 6-mil plastic bags with labels written directly on them in black marker. Additional packaging materials, including foam and tissue paper, were used for some of the historical-period artifacts.

Laboratory Processing and Labeling

Approximately 96 percent of the artifacts in the Fort Belvoir collections have been cleaned, but only 13 percent have been labeled. Most of the artifacts (93%) have been sorted by material class. The processing of artifacts takes place in a room adjacent to Collections Storage Area 2, which allows for wet and dry processing. Unwashed artifacts are stored within open containers in Collections Storage Area 1.

Human Skeletal Remains

No human skeletal remains recovered on Fort Belvoir are curated at FCAS.

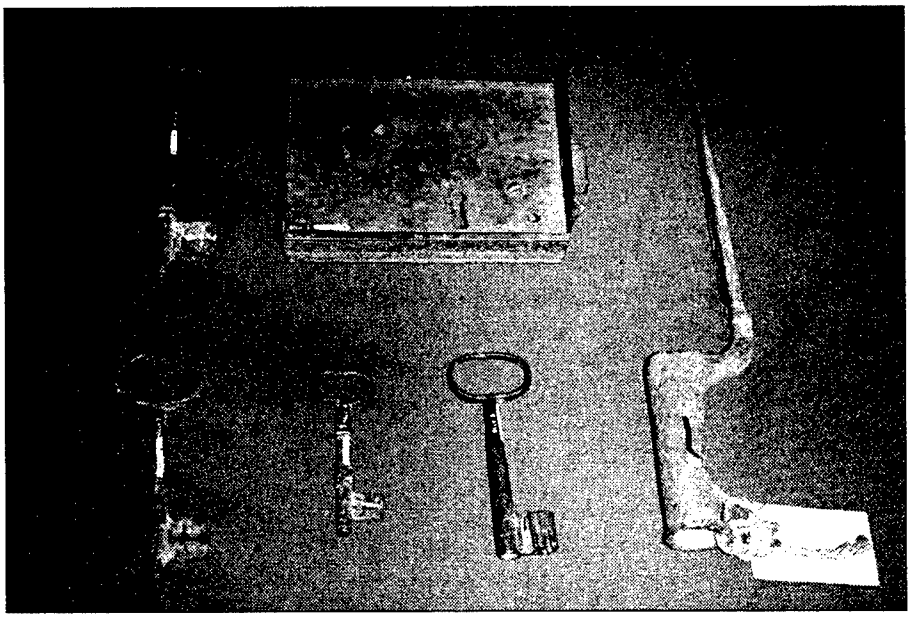

Figure 36. Historical-period metal keys, lock, and bayonet tip recovered on Fort Belvoir and stored at FCAS.

Records Storage

Approximately 6.6 linear feet of associated archaeological documentation and reports accompany the collections from Fort Belvoir. Artifact inventories and supplemental artifact information are stored with the archaeological collection in the same primary containers as the artifacts. Prehistoric and historical-period records are stored in Collections Storage Areas 2 and 3, respectively. Duplicate copies of the paper records have not been produced.

Prehistoric-site files are stored in a legal-sized, metal file cabinet. Historical-period files are in a letter-sized cabinet (Figure 37). Labels on the secondary containers range from being directly written on in marker to adhesive labels with information written in pencil. Manila folders are used to file paper and photographic records.

Paper Records

There are approximately 5.6 linear feet of Fort Belvoir paper records stored at FCAS. Primary containers include both acidic and acid-free-paper containers. Most records are stored in the same primary containers as the artifacts, which are generally acid-free-cardboard boxes. Many of the paper records collections contain contaminants (e.g., paper clips and staples).

Photographic Records

A total of 4.5 linear inches of photographic records are stored in the repository, including negatives, prints, and labeled slides. An archival storage system has not been used for organizing the photographic records. These records are mixed in with the paper records.

Maps and Oversized Documents

The repository currently holds less than 1 linear inch of cartographic records, which is stored in a manila folder. These are small site-specific maps associated with the site and artifacts with which they are stored.

Project Reports

Approximately 6.5 linear inches of reports are stored at FCAS in the reports library. Reports are bound, shelved, and cataloged.

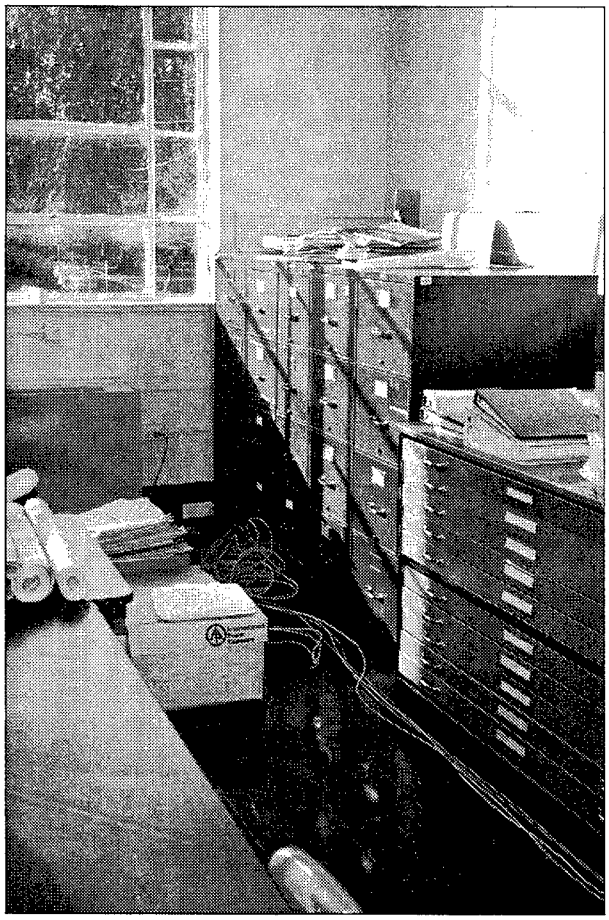

Figure 37. Associated records for historical-period sites are stored in metal file cabinets located upstairs in an office and lab area (Collections Storage Area 3).

Collections-Management Standards

Registration Procedures

Accession Files

Computerized accession files are kept for the collections.

Location Identification

The location of the collection is identified in a book stored in Collections Storage Area 1. The book contains the county site-numbering system, outlined in a series of county maps.

Cross-Indexed Files

Files are cross-indexed.

Published Guide to Collections

No guide to the collections, other than project reports, has been published.

Site-Record Administration

The county has a system of site registration that is administered by FCAS. The Smithsonian River Basin Survey trinomial site-numbering system is also used.

Computerized Database Management

Computerized database-management programs are used to manage collections. Information is regularly backed up on both disk and hard copy.

Written Policies and Procedures

Minimum Standards for Acceptance

Minimum standards for the acceptance of collections are based on FCAS guidelines.

Curation Policy

There is currently no formal curation policy.

Records-Management Policy

No formal records-management policy is in place.

Field-Curation Procedures

No formal field-curation guidelines have been written. When possible, state guidelines are followed.

Loan Policy

A formal loan procedure is overseen by the registrar. Informal guidelines have been established and are managed by FCAS staff.

Deaccessioning Policy

A deaccessioning policy has not been established.

Inventory Policy

An inventory policy has not been established.

Latest Collection Inventory

The latest collection inventory was performed during September and December 1994. Records of the inventory are stored on paper and on computer disk.

Curation Personnel

Generally, the senior staff of FCAS oversees all curation activities. No full-time curator is present. The paid staff includes a collections manager, two archaeologists, an administrative assistant, and interns. Volunteers are relied upon heavily for all aspects of archaeological work.

Curation Financing

Curation is financed through the Fairfax County budget. Financing is considered adequate, but not ideal.

Access to Collections

Outside researchers are encouraged, but are required to have a legitimate research project concerning the collection. Some collections have been stolen by outside researchers in the past.

Future Plans

Future plans include improving the environmental-control system and acquiring more supplies for efficient curation. A formal curation policy is being developed for the coming year.

Comments

1. The repository contains a large quantity of asbestos floor tiles that could be a health hazard to staff and outside researchers.

2. The staff has noticed large temperature fluctuations in the collections storage areas.

3. No UV filters are present on any of the light sources.

4. The accumulation of dead insects on windowsills is indicative of a possibly inadequate pest-management program.

5. Fire-detection and -protection systems in the collections storage areas are inadequate.

6. Artifact collections at FCAS, although stored in an orderly manner, require more space than is

currently available. Aisles between shelving are not wide enough for easy access and inventory.

7. The primary labels written on the boxes in pencil are fading.

8. Associated records are not stored or organized according to modern archival practices.

9. Many of the formal policies and procedures recommended for the curation of artifacts and associated documentation have not been established.

Recommendations

1. Remove and replace asbestos tiles immediately.

2. Install an HVAC system with an advanced dust-filtration system.

3. Equip all light fixtures in and near collections storage areas with UV filters.

4. Implement a pest-management program that includes regular monitoring and control.

5. Install a dry-chemical fire extinguisher in or near Collections Storage Areas 2 and 3.

6. To create more space for artifact storage, consider different sites for repositories.

7. Replace primary-container labeling with plastic sleeves that contain acid-free inserts.

8. Complete all current artifact processing before accepting new collections or archaeological projects.

9. Remove all contaminants from original records and store the records in an acid-free environment.

10. Establish a clearer, formal curation policy that can be easily put into practice and followed by staff and outside researchers.

18

Fort Loudoun State Historic Area

Vonore, Tennessee

Repository Summary

Volume of Artifact Collections: 14.5 ft^3

Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 0.2 linear foot (2.0 linear inches)

Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: Human skeletal remains of at least two individuals possibly recovered on Radford lands are housed at FLSHA.

Status of Curation Funding: All FLSHA activities, including curation, are funded through the state budget.

Date of Visit: November 15, 1995

Point of Contact: Dr. Joe Benthall

FLSHA is a designated state historic site. Dr. Benthall, the regional archaeologist, works out of an office in the visitors' center. Approximately 14.5 ft^3 of archaeological artifacts recovered by Dr. Benthall on Radford in 1968 are stored with FLSHA artifacts in his office and in a maintenance building. The Radford artifact collections are from prehistoric contexts; refer to Table 12 for a summary of material classes.

Radford artifacts are stored in two FLSHA storage locations. Storage Location 1 is the William C. Watson Visitors' Center and Museum, which displays artifacts recovered from FLSHA. Dr. Benthall has a desk in the kitchen in the rear of the structure. Less than 1 linear foot of records and approximately 0.5 ft^3 of artifacts are stored in this area. Storage Location 2 is the maintenance building, within which the majority of the collection is stored. Artifacts are stored in a portion of a loft in this structure.

Table 12. Summary, by Volume, of Prehistoric Material Classes Present in the Radford Collections at FLSHA

Material Class	%
Faunal remains	42
Ceramics	29
Lithics	15
Shell	5
Worked faunal bone	4
Human remains	3
^{14}C samples	1
Charcoal	1
Total	100

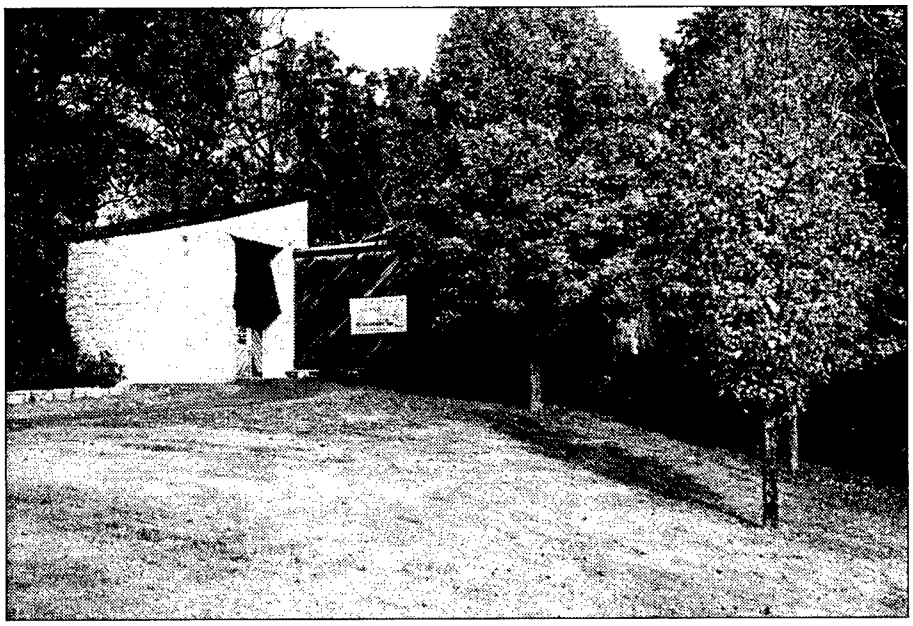

Figure 38. View of FLSHA's visitors' center and museum, that houses artifacts and documentation associated with Radford.

Assessment of Storage Location 1: William C. Watson Vistors' Center and Museum

Structural Adequacy

Storage Location 1, William C. Watson Vistors' Center and Museum, is a single-story, above-ground structure that encompasses approximately 2,200 ft^2 and was built in 1980 (Figure 38). This structure has a poured concrete slab foundation and steel frame with wood-siding exterior walls. The flat roof is a combination of copper and vinyl. The roof was repaired in 1990 to correct a problem with water leaking into the building; evidence of this water damage can still be seen on some of the ceiling tiles.

The collections storage area is approximately 33 ft^2 and has a concrete floor with linoleum tiles, and a suspended acoustical ceiling. There are no windows in this room. One wood-panel door leads to an administrative office area and the remainder of the visitors' center.

Environmental Controls

Storage Location 1 has an electrical heating and air-conditioning system that is equipped with a built-in dehumidifier. This system was originally in a loft, but has since been moved into a room in the museum. The utility systems are all original to the structure, with minor rewiring performed during the move of the heating system. The fluorescent lights lack UV filters.

The room that functions as a laboratory and kitchen is also used for processing artifacts and storing collections (Figure 39). Small amounts of acetone and hydrochloric acid are used without any means of ventilation. The only window in the facility is in the park manager's office. The window has a metal frame and does not have a shade. Park personnel clean the structure daily.

Pest Management

A contracted pest-management company sprays the structure on a regular basis—approximately two or three times per year. There has never been an insect or rodent infestation reported in the structure.

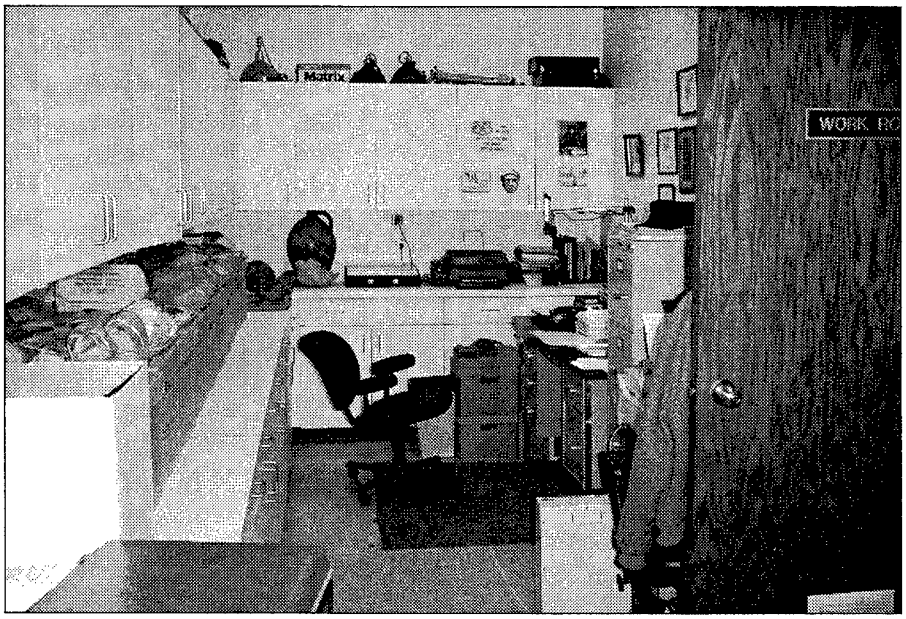

Figure 39. Office and collections storage area in Storage Location 1 at FLSHA.

Security

The facility has an intrusion alarm that is wired directly into the local police and fire departments. The structure is equipped with motion detectors and doors with both key and dead bolt locks. In addition, a park ranger patrols the grounds throughout the night. In the past, the exterior door was forced open by an intruder; motion detectors alerted the police.

Fire Detection and Suppression

Smoke detectors and dry-chemical fire extinguishers are located throughout the facility.

Artifact Storage

Storage Units

Although normally stored in Storage Location 2, some Radford artifacts were temporarily housed at the museum, in Dr. Benthall's office. The artifacts had been removed from the storage containers in Storage Location 2 and brought to Storage Location 1 for our inspection. The artifacts were on a plastic cafeteria tray (Figure 40) and a cardboard, telescoping box lid that were temporarily placed on Dr. Benthall's desk and a countertop.

Primary Containers

The cafeteria tray and box lid were both temporary containers for what Dr. Benthall considered to be some interesting artifacts that we would like to see.

Secondary Containers

Approximately half of the artifacts in Storage Location 1 lack secondary containers. The remainder of the artifacts are in acidic-paper bags labeled directly in black marker. The paper bags are folded and secured with rubber bands (Table 13).

Laboratory Processing and Labeling

All of the artifacts in Storage Location 1 have been cleaned and approximately 85 percent of the artifacts have been labeled directly in ink. Half of the materials has been sorted by material class.

Human Skeletal Remains

No human skeletal remains recovered on Radford are curated in Storage Location 1.

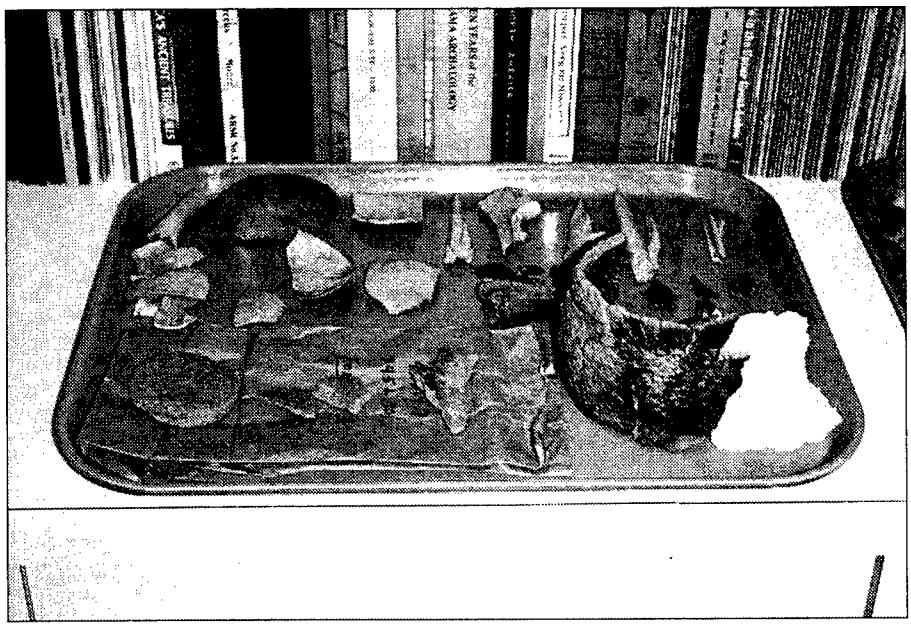

Figure 40. Artifacts recovered from Radford laid out on a cafeteria tray in Storage Location 1.

Table 13. Summary, by Volume, of Secondary Containers Used for Radford Collections at FLSHA

Container Type	%
Zip-lock plastic bags	94
Paper bags	2
Plastic film containers	2
Loose	2
Total	100

Records Storage

All of the associated documentation regarding the archaeological collections recovered on Radford is kept in a single, closed, acidic-paper envelope (Figure 41), which is stored in Dr. Benthall's file cabinet near his desk in Storage Location 1. The envelope is labeled in black marker "Stroubles Creek Site (44MY7), Radford Army Ammunition Plant 1968." All of the records are in relatively good condition.

Paper Records

Paper records present, all of which are acidic paper, include about .75 linear inch of administrative and excavation records. The presence of contaminants (e.g., staples and paper clips) was noted.

Photographic Records

Approximately 1 linear inch of black-and-white photographs, negatives, and slides is included in the associated documentation. These photographic records are stored in the acidic-paper envelope that contains the paper records.

Maps and Oversized Documents

About .25 linear inch of maps regarding site 44MY7 is stored in the acidic-paper envelope that contains the paper and photographic records.

Assessment of Storage Location 2: Maintenance Building

Structural Adequacy

Storage Location 2, the maintenance building, was built in 1985 and encompasses approximately 2,500 ft^2 (Figure 42). The foundation is

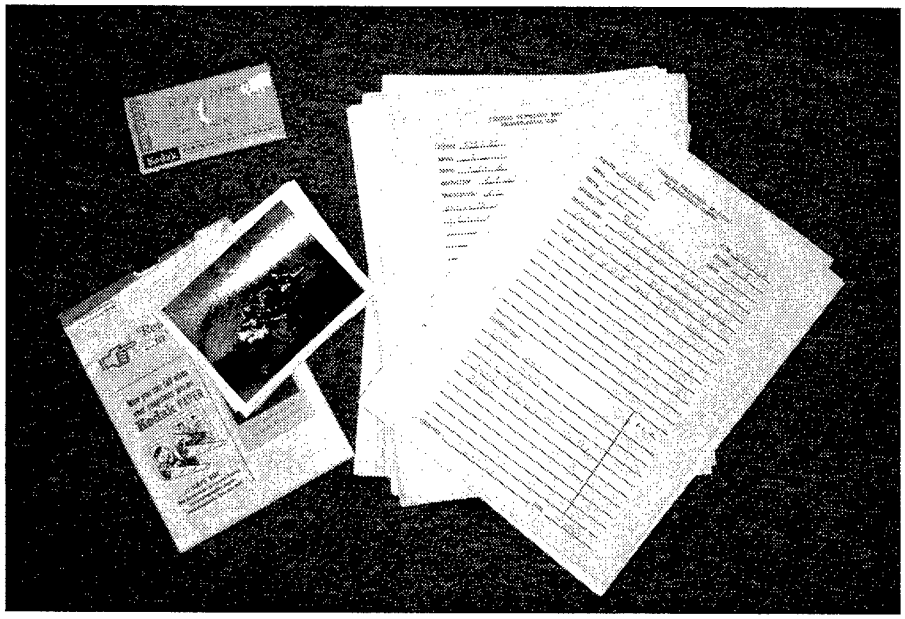

Figure 41. Associated documentation is kept in an acidic envelope that is stored in a file cabinet at FLSHA.

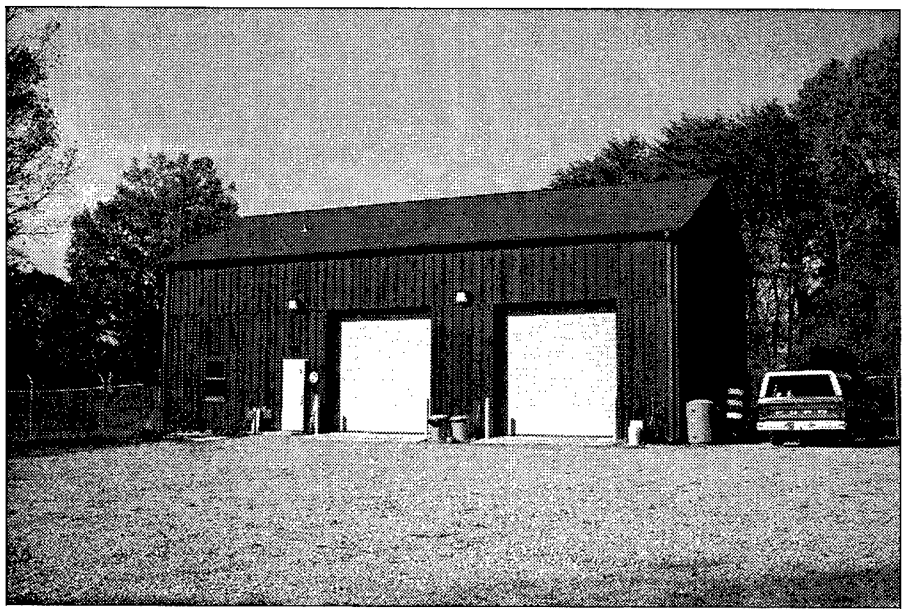

Figure 42. Exterior view of Storage Location 2, the maintenance building, at FLSHA.

concrete block; the exterior walls are cinder block with wood siding. The shingled roof is original to the structure. No problems with water leakage through the roof have been reported.

The single-story structure has a metal, caged-in loft that contains the collections storage area. The floor of the 125-ft^2 loft consists of steel beams with poured concrete. The ceiling is

Figure 43. Artifact collections are stored on shelves in the loft of Storage Location 2.

exposed insulation. Approximately 40 ft^2 of the loft is used for collections storage; the remainder of the loft is used for the storage of field equipment.

Environmental Controls

Environmental controls in Storage Location 2 consist of an electric heat pump and a wood-burning stove. A small office in the corner has the structure's only air conditioner, a window-mounted unit. A wall fan is used to circulate air in the structure. All of the utilities are original to the structure. The only window in the structure is in the park manager's office. Fluorescent lights, without UV filters, are present. The storage location is cleaned as-needed.

Pest Management

A contracted pest-management company sprays the structure on a regular basis, approximately two to three times per year. No insect or rodent infestations of this storage location have ever been reported.

Security

Security measures for Storage Location 2 consist of key locks and controlled access to the structure. A chain-link fence topped with barbed wire surrounds the entire complex and is padlocked every evening. The compound is kept lit throughout the night and park rangers patrol the area. The compound is on a dead-end road that is also locked every night with a gate. In addition, the park manager lives next to the structure and watches the compound. Car batteries were stolen from the site before Storage Location 2 was constructed, resulting in the installation of the fence and gate.

Fire Detection and Suppression

The only fire-safety device in Storage Location 2 is a fire extinguisher.

Artifact Storage

Storage Units

Enameled-metal shelving units are used to store the archaeological collections in the loft of Storage Location 2 (Figure 43).

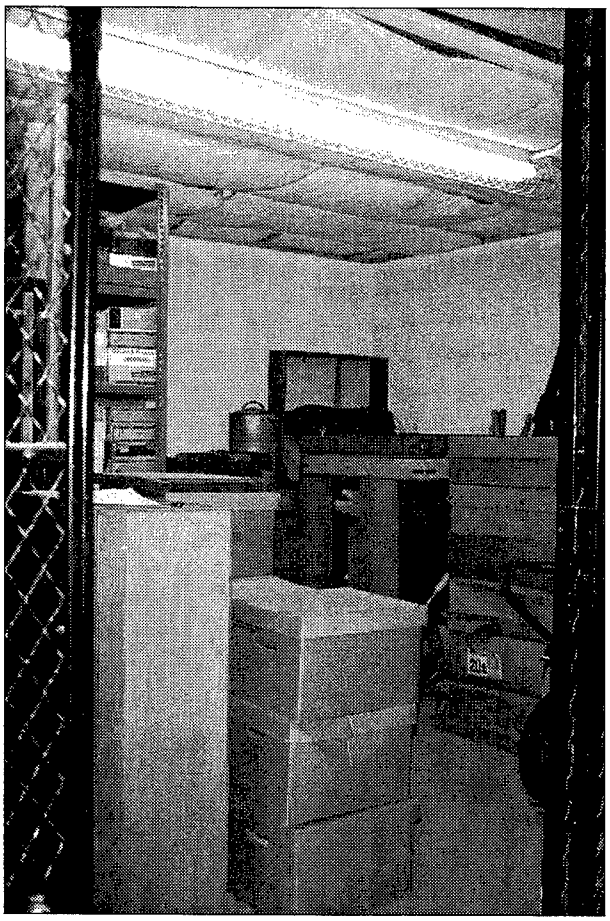

Figure 44. Collections storage area in Storage Location 2.

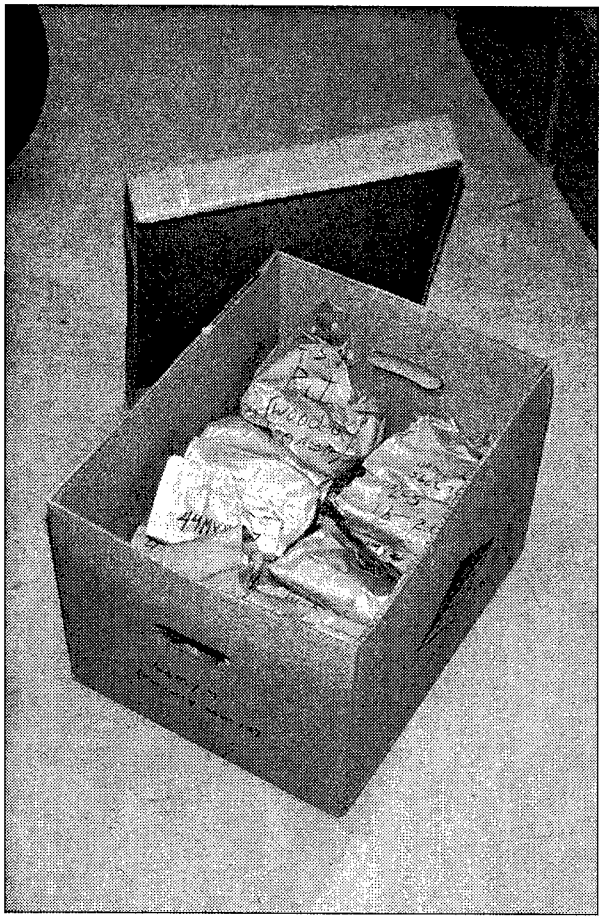

Figure 45. Cardboard boxes and paper bags are the primary and secondary containers used to store the artifact collections recovered from Radford.

Primary Containers

Acidic-cardboard boxes that are stapled, folded, and have removable, telescoping lids are used as primary containers (Figure 44). Labels are written directly on the boxes in marker. Boxes are very dusty; spider webs and insects were observed in the boxes. Water stains and tape are also on the boxes.

Secondary Containers

Most secondary containers in Storage Location 2 are zip-lock plastic bags with labels written directly on them in marker and pen (Figure 45). A few plastic film canisters are also used. Acidic tissue paper is used as padding. Some of the plastic bags are torn and should be replaced (see Table 13).

Laboratory Processing and Labeling

Artifacts in Storage Location 2 are not labeled or sorted by material class. Approximately 75 percent of the materials have been cleaned.

Human Skeletal Remains

Fragmentary human skeletal remains from at least two individuals were mixed with faunal remains in the collections at Storage Location 2. This material was given to Dr. Benthall by someone at Radford who said they found it on Radford property. Dr. Benthall does not have any further provenience information.

Records Storage

No documentation associated with collections recovered on Radford is housed at Storage Location 2. Refer to assessment of Storage Location 1 for a discussion of records storage at FLSHA.

Assessment of Both Storage Locations

Collections-Management Standards

Registration Procedures

Accession Files

Collections are not formally accessioned at this facility.

Location Identification

The location of the collections is not identified in any museum records.

Cross-Indexed Files

Files are cross-indexed.

Published Guide to Collections

No guide to the collections has been published.

Site-Record Administration

The Tennessee computerized site-numbering system is used.

Computerized Database Management

Computerized database-management programs are not currently used.

Written Policies and Procedures

Minimum Standards for Acceptance

Collections must have been recovered on FLSHA or be associated with Dr. Benthall's work to be stored at FLSHA.

Curation Policy

State guidelines for the processing and curation of collections and records are followed.

Records-Management Policy

All associated archaeological records are organized and maintained by Dr. Benthall.

Field-Curation Procedures

Permits are issued that contain guidelines for researchers collecting and depositing artifacts.

Loan Policy

An established loan policy is used.

Deaccessioning Policy

No collections or artifacts have ever been deaccessioned. A deaccessioning policy has never been established.

Inventory Policy

An inventory policy has never been established.

Latest Collection Inventory

The date of the last collection inventory is unknown.

Curation Personnel

Dr. Joe Benthall is the state regional archaeologist and curator of archaeological collections at FLSHA. He has extensive education and training at state and federal levels and performs many functions as the regional archaeologist. There is no full-time curator for the archaeological collections stored at FLSHA.

Curation Financing

Curation is financed through budgeted funds from the state. Dr. Benthall considers the financing inadequate for the proper curation of the collections.

Access to Collections

Staff members have access to the collections. However, a formal policy regarding access to the collections by researchers does not exist. Interested, legitimate researchers are granted access upon request.

Future Plans

Dr. Benthall would like to move into a larger facility with better storage conditions. He is aware of a state parks structure that is being destroyed

because of road construction. The state will be building a new facility for the Parks Department and Dr. Benthall is pursuing the possibility of moving into the new building.

Comments

1. There is a significant lack of dedicated work, laboratory, and storage space for the archaeological artifact collections and associated records.

2. The environmental controls in Storage Location 2 are inadequate.

3. There is no integrated pest-management program in either storage location that includes both monitoring and control.

4. Adequate measures have been taken for the security from theft of the artifact and records collections.

5. No fire extinguishers are present in the artifact and records collections storage areas.

6. Primary and secondary containers are not stable, archival-quality products.

7. Human skeletal remains are present in the artifact collections in Storage Location 2.

8. Many of the registration procedures and written policies and procedures needed for the management of the collections have not been established, formalized, or both.

9. All of the associated paper records are on acidic paper. Duplicate copies of the records have not been produced.

Recommendations

1. Dedicate space necessary for work, laboratory, and collections storage areas.

2. Install an HVAC system and humidity controls in Storage Location 2 if archaeological collections are to continue being housed there.

3. Implement a pest-management program that includes regular monitoring and controlling of pests.

4. Install dry-chemical fire extinguishers in or near all collections storage areas.

5. Rebag and rebox artifact collections in zip-lock, 4- or 6-mil polyethylene bags and acid-free boxes, respectively. Tags made from spun-bonded, polyethylene paper (e.g., Nalgene polypaper) should be labeled in indelible ink and inserted into the polyethylene bags.

6. Perform further research to determine the provenience of the human skeletal remains in the artifact collection. Complete a summary and inventory to comply with the requirements of NAGPRA.

7. Photocopy all documentation on acid-free paper and store in a separate, fireproof, secure location.

8. Develop and implement the necessary registration and management policies and procedures recommended for the proper use and protection of the artifact and records collections.

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Foster Wheeler Environmental Corporation

Lyndhurst, New Jersey

Repository Summary

Volume of Artifact Collections: 1.4 ft^3

Compliance Status: Collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: 1.2 linear feet (14 linear inches)

Compliance Status: Associated documentation requires partial rehabilitation to comply with federal regulations and modern archival-preservation standards.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are financed through contracted projects' budgets.

Date of Visit: December 5, 1995

Points of Contact: Sydne Marshall and Joel Klein

Foster Wheeler is a firm that has subsumed the now defunct EBASCO company that had performed an archaeological survey for Adelphi Labs. Four boxes of artifacts (1.4 ft^3) were recovered during the survey, and 14 linear inches of associated records were generated. This material is temporarily being stored in the offices of Foster Wheeler. The artifact collection consists of objects from historical-period contexts, with glass being the most abundant material class (Table 14). Of the four boxes of artifacts, only one box was available for inspection. The other three boxes were missing. Since our visit another box has been located; however, two are still missing.

Artifacts recovered on Adelphi Labs are housed in Storage Location 2, a temporary storage facility located in a different structure in the same complex of offices.

All of the Adelphi Labs associated documentation is kept in an extra office cubicle in Storage Location 1, with other boxes of records.

Assessment of Storage Location 1: Main Office Building

Structural Adequacy

Storage Location 1, built in 1983, is a large office building encompassing 106,806 ft^2 (Figure 46). Foster Wheeler occupies approximately

Table 14. Summary, by Volume, of Historical-Period Material Classes Present in the Adelphi Labs Collection at Foster Wheeler

Material Class	%
Glass	70
Ceramics	25
Metal	5
Total	100

58,000 ft^2 on the third, fourth, and fifth floors. The building has a poured concrete foundation, concrete block walls, and a flat roof that is original to the building's construction. The building is structurally solid, with no signs of cracks or leaks. There is a total of five floors, all aboveground, with bands windows on all four sides of the building.

Environmental Controls

The building has an HVAC system with temperature and humidity monitoring and controls that are maintained by a facilities manager who works for the office park developer. Fluorescent light fixtures, without UV filters, are mounted in the ceiling. The offices are cleaned and maintained through a contracted company hired by the office park developer.

Pest Management

Precautions are taken against insects and rodents on an as-needed basis by a contracted pest-management company. Storage Location 2 has had more problems with the insects because of its ground floor location and its exterior door.

Security

Storage Location 1 has an intrusion alarm and controlled access throughout the building. Every door is kept locked electronically. Employee badges have a small computer chip that must be swiped across the door's electronic control panel for access to the offices. Security guards patrol the office park 24 hours a day. All windows are sealed shut. There have never been any reported incidents of unauthorized access into the building.

Fire Detection and Suppression

Fire-detection and -suppression systems in Storage Location 1 include manual fire alarms,

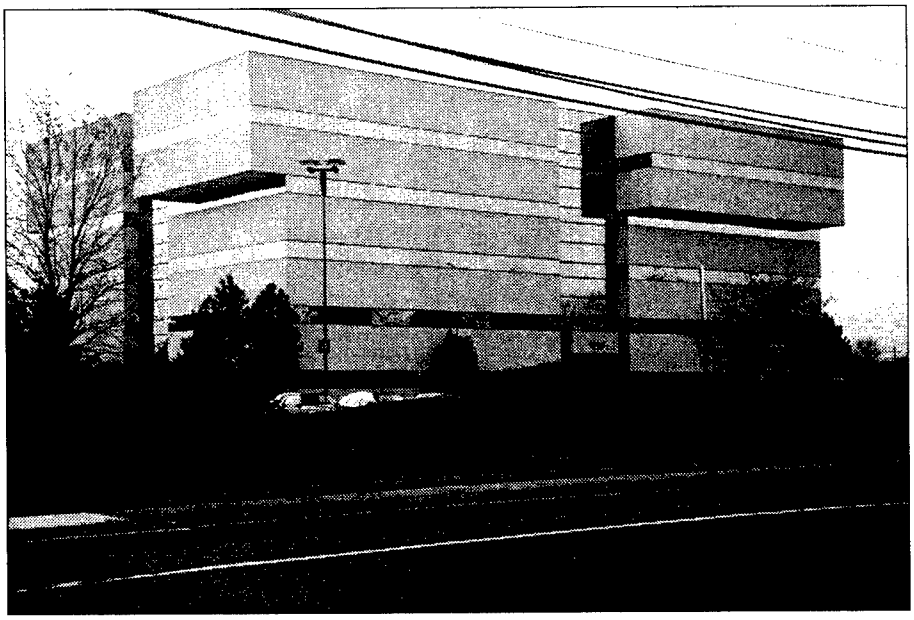

Figure 46. View of the office building where Foster Wheeler is located.

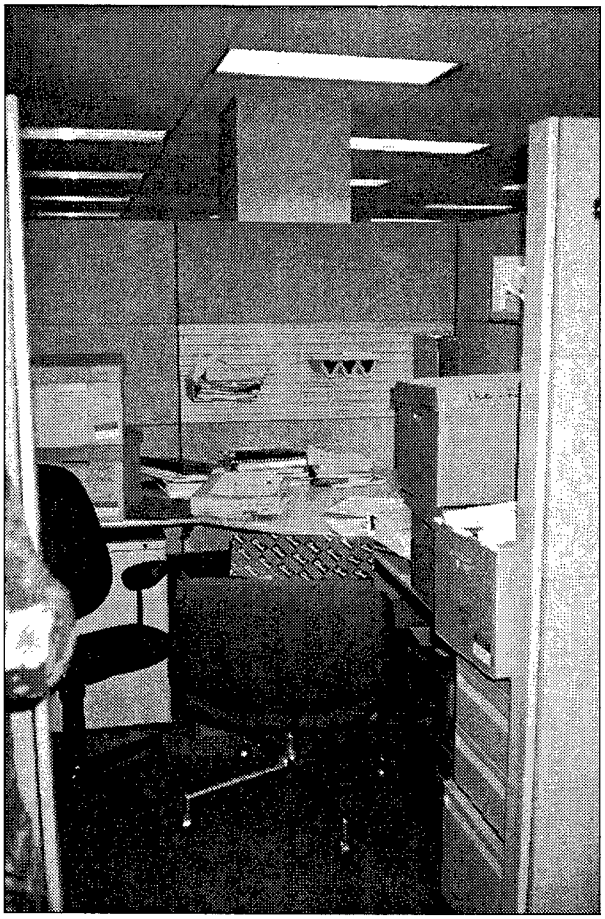

Figure 47. Associated records are boxed and stored in an extra office cubicle in Storage Location 1.

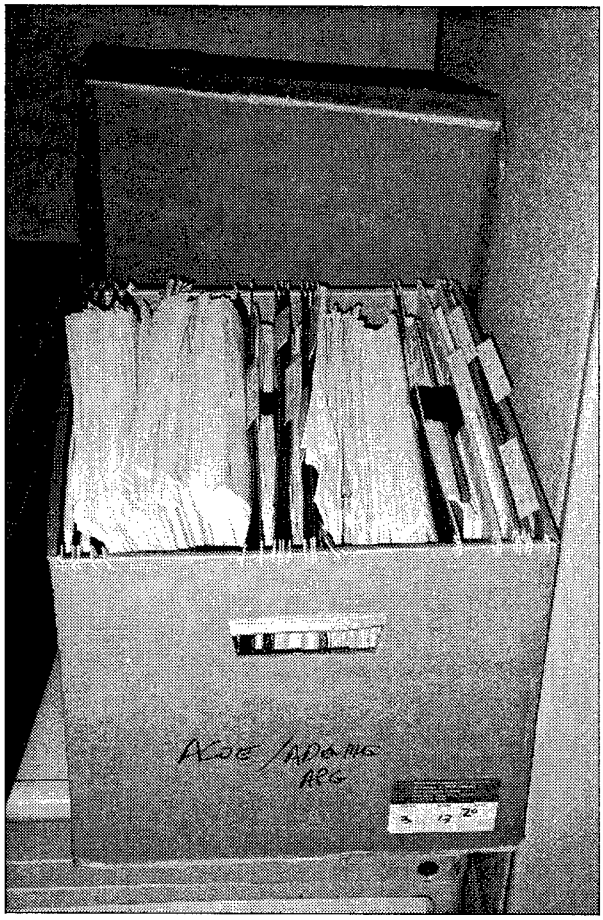

Figure 48. Associated documentation is filed and stored in a cardboard box in Storage Location 1.

smoke detectors, a sprinkler system, and fire extinguishers located throughout the building. All are inspected annually.

Artifact Storage

No artifacts associated with military installations in the project area are stored in Storage Location 1. Refer to assessment of Storage Location 2 for a discussion of artifact storage at Foster Wheeler.

Human Skeletal Remains

There are no human skeletal remains in this collection.

Records Storage

Records are stored by project. Associated records for the Adelphi Labs survey are stored in an acidic-cardboard box similar to the one used for artifact storage (Figure 47). The label is written directly on the box in marker (Figure 48). Records are filed in acidic, hanging files within the box. All of the records are in generally good condition; however, duplicate copies have not been produced. Some of the field notes still have dirt and dust on them, and contaminants (e.g., staples, paper clips, and rubber bands) are present on the original documentation.

Paper Records

Paper records present include approximately 1 linear foot of administrative records, background records, survey records, and excavation

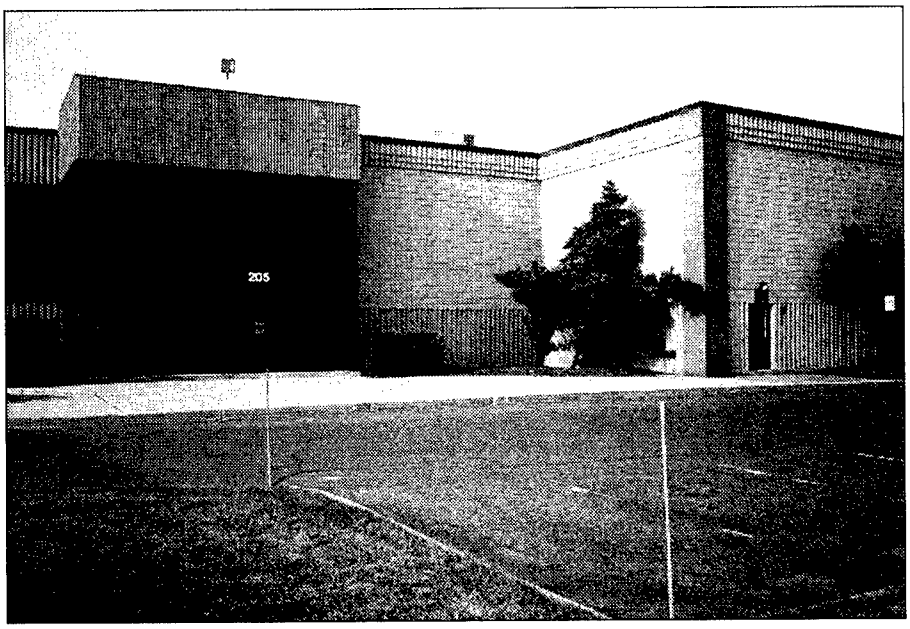

Figure 49. Artifact collections are temporarily stored in Storage Location 2. This office building is in the same office complex as Storage Location 1. The single door on the right is the only entrance to the Foster Wheeler collections storage area.

records. A Phase I report also is included with the associated documentation.

Photographic Records

Approximately 1 linear inch of color photographs and negatives are included in the associated documentation. These are stored in the same acidic box as the paper records.

Maps and Oversized Documents

Less than 1 linear inch of small maps of the survey area to be included in the Phase I report are stored with the other associated documentation.

Assessment of Storage Location 2: Temporary Storage Facility

Structural Adequacy

Storage Location 2 encompasses 151,705 ft^2, and also has a poured-concrete foundation with concrete exterior walls and a flat roof that was recently replaced (Figure 49). Foster Wheeler occupies approximately 402 ft^2 on the ground floor.

Environmental Controls

A thermostat that controls air-conditioning and heat is present in the room that is used for storage of field equipment and temporary artifact storage. There are no windows in the room. Fluorescent lights, without UV filters, are used.

Pest Management

Precautions are taken against insects and rodents on an as-needed basis by a contracted pest-management company. Storage Location 2 has had more problems with insects than Storage Location 1 because of its ground floor location and exterior door.

Security

The collections storage room in Storage Location 2 has metal exterior and interior doors that are kept locked with dead bolts. There are no windows in this room. The building is patrolled 24 hours a day.

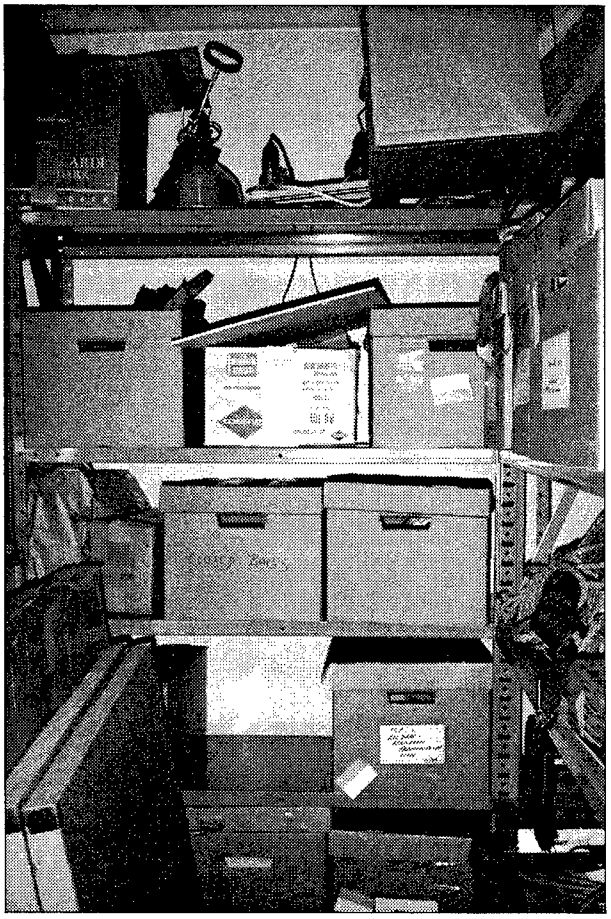

Figure 50. Metal shelving unit where artifact collections are temporarily stored in Storage Location 2.

Fire Detection and Suppression

The only fire-safety device present in the storage room of Storage Location 2 is a sprinkler system.

Artifact Storage

Storage Units

Boxes of artifacts are stored on metal shelving units in a small room designed to be a temporary storage space in Storage Location 2 (Figure 50). During our site visit, however, three of the four boxes of artifacts—representing about 4.2 ft^3 of materials—recovered from Adelphi Labs were missing.

Refer to Table 14 for the percentages of artifact material classes present in the single-box collection.

Primary Containers

The primary container is an acidic-cardboard box with a telescoping lid (Figure 51). The box label was written directly on the box in marker. The box is slightly damaged and torn. One end of the box lid is held on with clear packing tape.

Secondary Containers

Acidic-paper bags are used for secondary containers. The bags are labeled directly in black marking pen. Some of the bags are crumpled and torn.

Laboratory Processing and Labeling

Artifacts have not been cleaned, labeled, or sorted by material class.

Human Skeletal Remains

There are no human skeletal remains in this collection.

Records Storage

No records associated with archaeological collections from military installations in the project area are stored in Storage Location 2. Refer to assessment of Storage Location 1 for a discussion of records storage at Foster Wheeler.

Assessment of Both Storage Locations

Collections-Management Standards

Foster Wheeler is not a long-term curation facility, and does not have many of the recommended written guidelines and procedures.

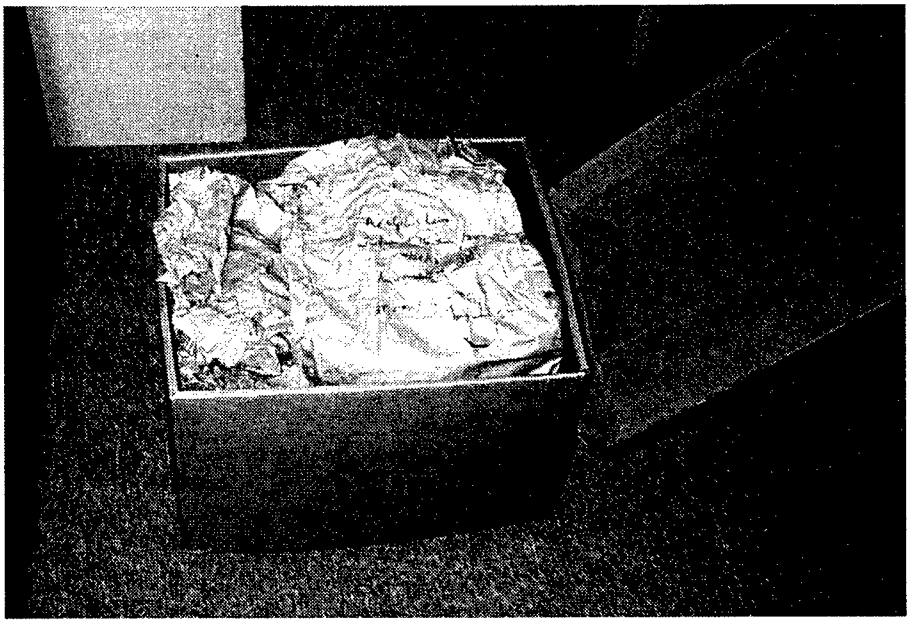

Figure 51. Artifacts from Adelphi Labs are stored in cardboard boxes and paper bags in Storage Location 2.

Registration Procedures

Accession Files

Accession records are not used at this facility.

Location Identification

The location of the collection is not identified in an accession file.

Cross-Indexed Files

Project files are not cross-indexed.

Published Guide to Collections

No published guide to the collections has been produced.

Site-Record Administration

No system of site-record administration is in place.

Computerized Database Management

Computerized database-management programs are used for report preparation.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards for the acceptance of archeological collections are in place, but only collections associated with work Foster Wheeler has performed are temporarily curated.

Curation Policy

Foster Wheeler does not have a comprehensive plan for the curation of records or artifacts. Guidelines detailed in the project's scope of work are followed.

Records-Management Policy

All the associated archaeological records are organized and maintained by the project director.

Field-Curation Procedures

Foster Wheeler employees follow the state's guidelines for field curation and the guidelines of the long-term curation facilities to which the collections will be sent.

Loan Policy

Loan policies have been established.

Deaccessioning Policy

A deaccessioning policy has not been established.

Inventory Policy

An inventory policy is in place for those materials going into deep storage.

Latest Collection Inventory

The date of the last collection inventory is unknown.

Curation Personnel

Foster Wheeler does not employ a full-time curator for archaeological collections, as they are not a long-term curation repository. The project's director is responsible for the artifact and records collections until they are turned over to the sponsoring agency or a long-term curation facility.

Curation Financing

Curation financing consists of funds budgeted from the project. Dr. Sydne Marshall considers the financing to be adequate for curation of the collections.

Access to Collections

Staff members have access to the collections. A formal policy regarding access to the collections by researchers does not exist.

Future Plans

Future plans for the storage of artifact and records collections temporarily located at the Foster Wheeler offices include a new policy to transfer collections from Foster Wheeler to a professional archival facility.

Comments

1. A functional HVAC system is present in Storage Location 1, but not in Storage Location 2.

2. The fluorescent lights in both storage locations do not have UV filters to protect against damaging UV rays.

3. No fire extinguishers are present in the collections storage areas of either Storage Location 1 or 2.

4. Two of the four boxes of artifacts recovered from Adelphi Labs are missing.

5. Primary and secondary containers are not stable, archival-quality products.

6. Contaminants are present on the original records, and duplicate copies of all records have not been produced.

7. Many of the registration procedures, written policies, and procedures needed for the management of collections have not been established and/or formalized.

Recommendations

1. Install and maintain a functional HVAC system to regulate and monitor the temperature and humidity levels in Storage Location 2.

2. Protect artifact and records collections from UV exposure with UV sleeves that cover the fluorescent bulbs.

3. Install a dry-chemical fire extinguisher in or near each of the collections storage areas.

4. Recover missing boxes of artifacts and ensure their safety from future loss.

5. Artifact collections must be rebagged and reboxed in zip-lock, 4-mil polyethylene bags and acid-free boxes. Additionally, interior labels made from spun-bonded, polyethylene paper (e.g., Nalgene polypaper) should be labeled in indelible ink and inserted into the polyethylene bags.

6. Photocopy all documentation on acid-free paper, and store in a separate, fire-safe, secure location.

7. Develop and implement the necessary registration and management policies and procedures recommended for the proper use and protection of the artifact and records collections.

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Geo-Recon International

Seattle, Washington

Repository Summary

Volume of Artifacts Collections: None

Linear Feet of Records: 2.4 linear feet (29.25 linear inches)

Compliance Status: Associated documentation require complete rehabilitation to comply with federal regulations governing the long-term curation of archaeological records.

Human Skeletal Remains: None

Status of Curation Funding: Funding for curation activities does not exist.

Date of Visit: December 13, 1995

Points of Contact: Clyde Ringstad and John Musser

GRI is a contracting firm that—as of 1983–1984—no longer deals actively in archaeology. However, they still maintain 2.4 linear feet of documentation associated with archaeological work performed on Bloodsworth Island NR and Blossom Point.

GRI is located in a one-story office complex (Figure 52). The archaeological records storage area is currently located in a room at the rear of the GRI office.

Assessment

Structural Adequacy

The GRI office occupies an estimated 2,700 ft^2 (plus an additional warehouse site) within the office building. The office building was reportedly built in the 1940s or 1950s. The entire building foundation consists of concrete, with exterior walls of gravel composite. The roof is composed of wood shingles.

The building has one aboveground floor. The GRI office has two large external windows facing south, both of which are equipped with blinds. The aluminum window frames are original to the building and do not leak air or water. The front door to the office is set between the two windows, and consists of two panes of opaque glass.

Archaeological documentation associated with the Legacy project is being stored temporarily in an approximately 40-ft^2 room located in the rear of the office. This records storage area measures. The floor is carpeted, the ceiling is plaster, and the interior walls are plasterboard covered with plaster. The interior door is wood panel. In addition to the archaeological record files, which are stored in four cardboard file drawers, the room currently houses tables and desks. The room is filled to approximately 90 percent capacity.

Figure 52. Front view of GRI, where Bloodsworth Island NR and Blossom Point associated documentation is housed.

Environmental Controls

The main building housing the GRI offices has central heating, which is operated by a gas furnace. There is no air-conditioning, and humidity is neither regulated nor monitored. No environmental controls exist in the records storage room. Maintenance and cleaning are performed by GRI staff as-needed; dust was observed during the site visit. The overhead fluorescent lights are not equipped with UV filters.

Pest Management

Pest control is conducted on an as-needed basis.

Security

The only security measure currently in place for the GRI office is a key lock on the front door. The interior door to the records storage room is not equipped with a lock.

Fire Detection and Suppression

There are no fire-detection systems installed at the facility, but the office is equipped with fire extinguishers.

Artifact Storage

GRI is not currently curating any artifact collections recovered from military installations in the project area.

Human Skeletal Remains

GRI is not currently curating any human skeletal remains recovered from military installations in the project area.

Records Storage

The archaeological documentation associated with Bloodsworth Island NR and Blossom Point is stored in acidic-paper file folders and envelopes, which in turn are filed in stacked cardboard storage units that are sitting directly on the carpeted floor of the small storage room (Figure 53). Documentation totals 29.25 linear inches, of which 13.5 linear inches are associated with Bloodsworth Island NR, and 15.75 linear inches are associated with Blossom Point.

Paper Records

Paper records consist of a variety of administrative, background, survey (including field notes),

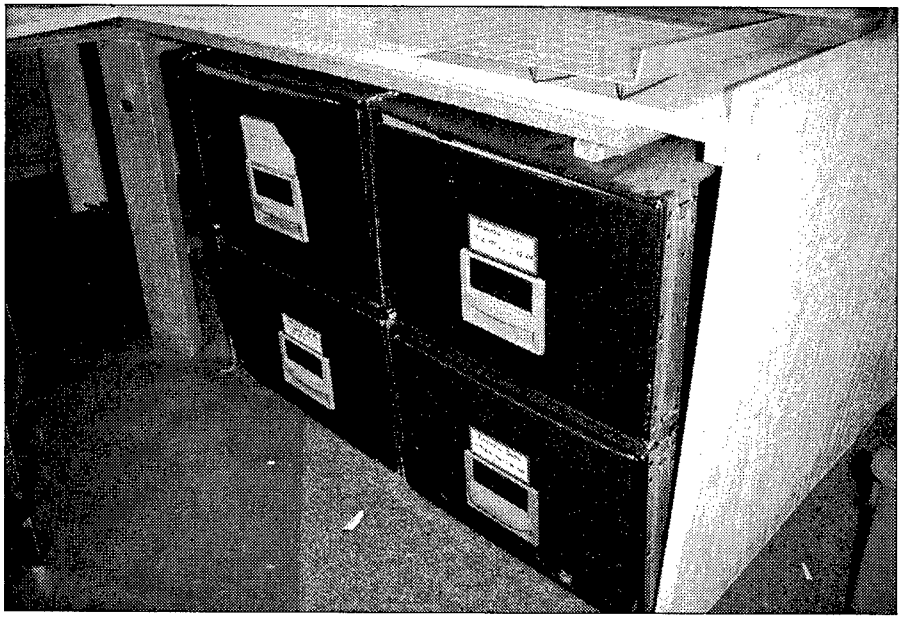

Figure 53. Cardboard storage units are used to house associated documentation at GRI.

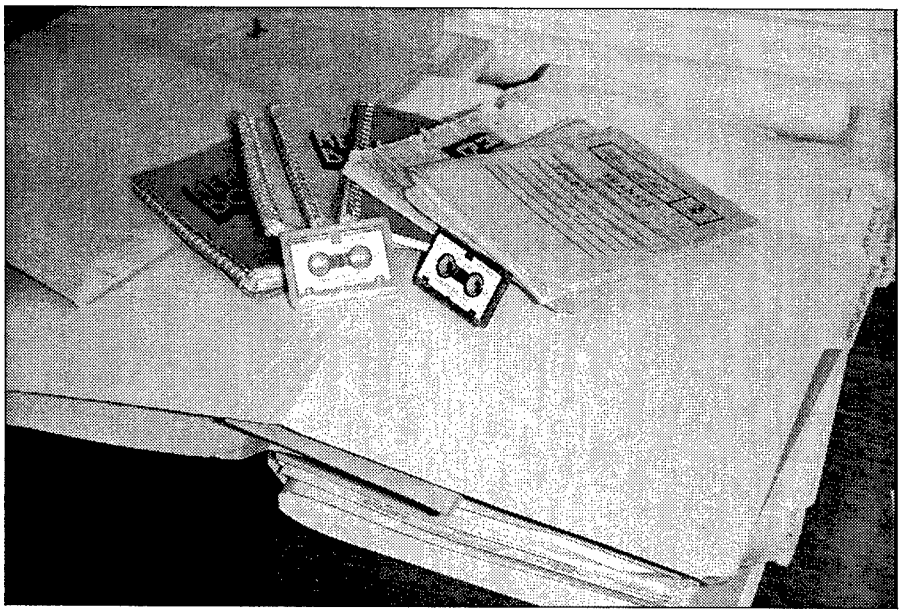

Figure 54. Field notebooks and audiocassettes are examples of the different types of associated documentation located at GRI.

excavation, and analysis records (Figure 54). There are approximately 5.75 linear inches of paper records associated with Bloodsworth Island NR, and 8.5 linear inches associated with Blossom Point.

Photographic Records

Photographic records include unlabeled black-and-white prints, negatives (labeled and contained in archival sleeves), and contact sheets

(labeled on their backs). There are approximately 1.5 linear inches of photographic records associated with Bloodsworth Island NR, and 1.5 linear inches of associated with Blossom Point.

Maps and Oversized Documents

Cartographic records include both large and small maps (folded and rolled), drawings, and blueprints. Cartographic records comprise 4.25 linear inches associated with Bloodsworth Island NR and 0.75 linear inches associated with Blossom Point.

Project Reports

There are 2 linear inches of project reports associated with Bloodsworth Island NR, and 5 linear inches of reports associated with Blossom Point. Reports are stored with the other records.

Audiovisual Records

Two microcassette audiotapes are included in the documentation collection (see Figure 54).

Collections-Management Standards

GRI is a private consulting firm, and is not considered a long-term curation facility; therefore, collections-management standards were not evaluated.

Curation Personnel

Clyde Ringstad was the only GRI staff present for the assessment. Steven Wilke was the primary archaeologist at GRI, but has left the firm and is now living outside the country. He was responsible for generating all of the archaeological documentation that pertains to these installations.

Curation Financing

There is no funding for archaeological curation.

Access to Collections

Staff members have access to the collections. Researchers are granted access upon request.

Future Plans

GRI is not a long-term curation repository. Therefore, staff members have no plans for future curation.

Comments

1. The current records storage area, albeit considered to be temporary, is wholly inadequate. It is equipped with neither environmental controls nor fire-detection or -suppression equipment. Security and pest control measures are also inadequate.

2. The archaeological records are stored in acidic-paper folders and envelopes inside acidic-cardboard primary containers that are stacked directly on the floor.

3. The records being stored at GRI are valuable original documents, but have been rendered virtually useless by being separated from the associated collections.

Recommendations

1. Remove the records from their current storage location and temporarily store them in fire-proof file cabinets.

2. Transfer all the archaeological documentation into archival-quality folders. Make duplicate copies, where possible, and store in a separate, safe location.

3. Begin official proceedings to have all the archaeological documentation pertaining to the Legacy project transferred to an appropriate curation facility in Maryland (i.e., MHT) so as to be reunited with their collections.

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R. Christopher Goodwin & Associates

Frederick, Maryland

Repository Summary

Volume of Artifact Collections: 6.5 ft^3

Compliance Status: Collections are boxed according to federal guidelines and standards for curation.

Linear Feet of Records: 0.4 linear foot (5 linear inches)

Compliance Status: Associated documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. Records should be removed from the artifact containers in which they are currently housed, and placed in acid-free cardboard boxes.

Human Skeletal Remains: None

Status of Curation Funding: Curation of collections is accomplished by writing funds into the consulting contracts. The staff feels that funding is adequate for the firm's goals.

Date of Visit: February 7, 1995

Point of Contact: Christopher Goodwin and Terry Reimer

Goodwin is an archaeological consulting firm with offices in Frederick, Maryland; New Orleans, Louisiana; and Tallahassee, Florida. The Frederick office has directed work at Aberdeen and Fort Detrick. The firm currently holds approximately 6.5 ft^3 of artifacts (Table 15) and 0.4 linear foot (5 linear inches) of records from these installations. The firm does not view itself as a long-term curation facility, but merely as a temporary curation facility while artifacts await acceptance to the respective state repositories.

Table 15. Summary of Military Collections, by Installation, at Goodwin

Installation	Volume of Artifacts (ft^3)
Aberdeen	4.8
Fort Detrick	1.7
Total	6.5

Table 16 illustrates artifact material classes observed by the assessment team. Goodwin was first visited on July 19, 1994, for the Atlantic Navy project (see Table 1), and general repository information was collected during that visit.

Table 16. Summary, by Volume, of Material Classes Present in Military Collections at Goodwin

Material Class	%
Prehistoric	
Lithics	73
Faunal remains	3
Historical-period	
Ceramics	9
Glass	8
Metal	6
Brick	1
Total	100

Assessment

The Frederick office is located in a renovated house that has a recent addition containing the collections storage area (Figure 55). The house has over 6,000 ft^2 of floor space, and consists mostly of offices, but also contains an artifact holding area, washing area, processing lab, and temporary storage area.

Structural Adequacy

Originally built in 1920 as a residence, the facility was renovated about five years ago. The newest portion, an addition to the rear of the house (Figure 56), was completed at about the same time as the renovation. The foundation of the facility is composed of concrete block, and the roof is tin. Exterior walls for the older portion are asbestos shingle; the newer addition's walls consist of corrugated metal. The older portion of the house was reroofed in the past 10 years, while the newer addition was reroofed approximately three years ago. Both the foundation and the roof appear to be structurally sound and free of cracks and leaks.

The facility contains a number of floors. In the older portion, there are three above grade, one below grade. In the addition, there are two above grade. There are multiple doors to the exterior, the closest to the collections storage area being made of glass. There are multiple interior doors, with two doors separating the collections storage area from the remainder of the facility.

There are a number of windows in the facility, all having shades and having either wood or aluminum frames. All windows appear to be sound and free of cracks or leaks. Windows were replaced during the renovation.

The collections storage room contains approximately 280 ft^2 of floor space and is located in the newer addition to the repository. The area has a carpeted concrete floor, wallboard and Sheetrock walls, and a suspended acoustical tile ceiling. The room contains two windows, neither equipped with shades. Window frames are aluminum, with no evidence of leaks or cracks.

Environmental Controls

The Goodwin facility maintains different temperature controls for the older house and the recent addition. The front, older house uses window air-conditioning units and central oil heating. The addition containing the collections storage area uses an electric heat pump for cooling and heating, with a backup electric heat system. Humidity is neither monitored nor regulated. Dust filters are present on the furnace, and a professional service cleans the facility weekly.

The targeted temperature in the collections storage area is 68° F. Lighting in the room consists entirely of fluorescent lights with plastic shields, but no UV filters.

Pest Management

The facility does not maintain an integrated pest-management system, but there were no signs of insect or rodent problems at the time of the visit. Generally, if a problem develops, it is addressed at that time. The most recent extermination work was to eradicate a problem with ants.

Security

Security measures at Goodwin include key locks, dead bolt locks, and window locks, as well as an intrusion alarm system with ubiquitous interior motion detectors. A private security

Figure 55. The Goodwin offices are located in this renovated house.

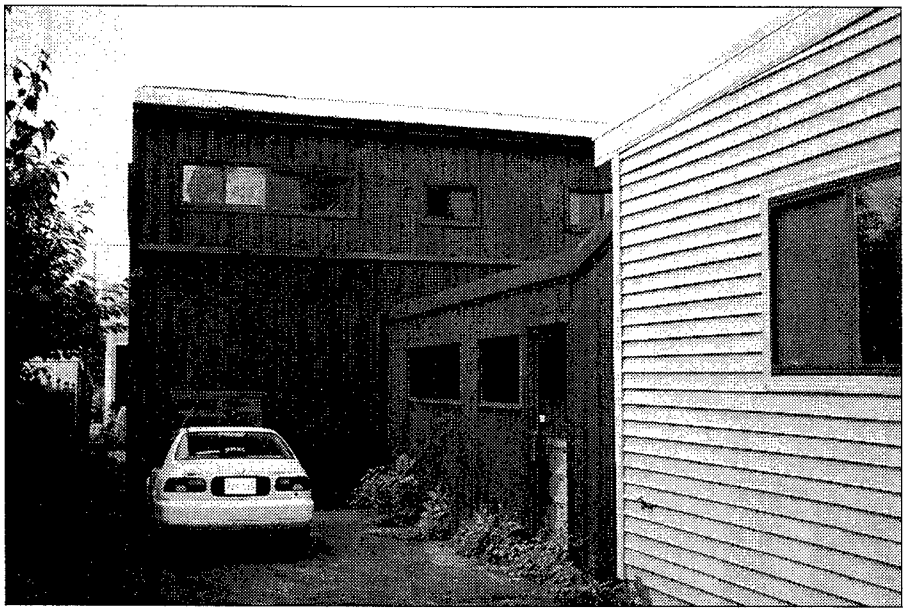

Figure 56. The recent addition to the rear of the offices of Goodwin is used as the collections storage area.

company continually monitors the system. Locks and intrusion alarms are located on all exterior doors. Security risks compromising the collections' security do exist, however. Windows are numerous and are protected by only simple window locks; there are two such windows in the collections storage area. One door in the causeway between the older house and the most recent addition to the repository is glass. In addition, the two hollow core wood doors separating

the collections storage area from the rest of the repository have no locks. There have not been any episodes of unauthorized access in the past.

Fire Detection and Suppression

The facility maintains a total security and fire-detection system. The fire-detection system is composed of zone detection systems that the fire department monitors 24 hours a day. One zone covers the collections storage area; all fire-detection zones are connected to the central alarm. There are a number of smoke detectors throughout the building, too. Fire suppression for the facility, however, consists of two fire extinguishers. There is no sprinkler system.

Artifact Storage

Storage Units

Archaeological collections and associated documentation are stored on standard enameled-metal shelving units (Figure 57) measuring approximately 3 × 1.3 × 5.8 feet (w × d × h). Each unit is five shelves high, and boxes are stacked one to two high.

Primary Containers

Except for one, primary containers are acid-free Hollinger boxes, with telescoping lids, and a capacity of 1.2 ft^3 each (Figure 58). They are constructed by folding and glueing. None of the boxes appears damaged. Each box is labeled with a preprinted, acid-free-paper tag placed in a zip-lock bag adhered to the front of the box (Figure 59). Pertinent information is written legibly on the label in black marker. Label information generally includes project name, contents of the box, bag numbers, site numbers, and remarks. The single non-Hollinger container is an acid-free envelope folder with a folding lid and a capacity of 0.5 ft^3; labels and accompanying information is the same as for the Hollinger boxes. Collections are arranged by project on the storage units (e.g., Aberdeen, Fort Detrick).

Secondary Containers

Secondary containers consist entirely of zip-lock, 2- and 4-mil bags. Containers are directly labeled in black marker, generally with site number, project, and provenience. Artifacts from the same provenience are further sorted by artifact class, with each class separately bagged in tertiary zip-lock container. Secondary containers are

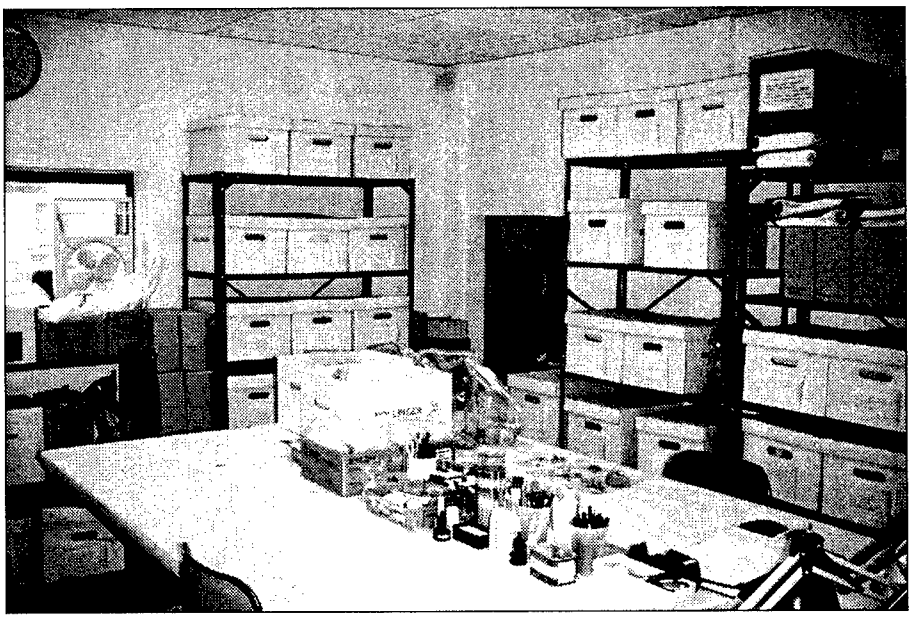

Figure 57. View of the collections storage area and laboratory at Goodwin. Boxed collections are stored temporarily on metal shelving units until they are sent to a permanent repository.

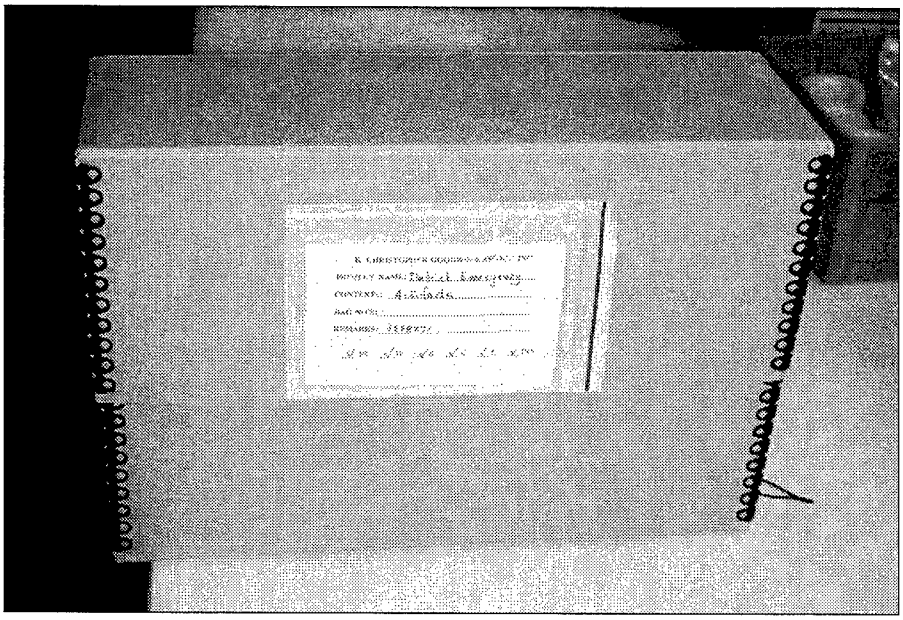

Figure 58. Acid-free primary containers are used to house artifacts recovered from an emergency project on Fort Detrick.

arranged neatly, laying vertically in the Hollinger boxes.

Laboratory Processing and Labeling

All of the artifacts have been cleaned, and approximately 90 percent have been labeled. Artifacts are labeled directly with india ink, with information consisting of site number and artifact number. Provenience and artifact number for unlabeled artifacts are written on acid-free tags which are placed in the secondary containers. All artifacts are sorted by provenience and then by material class.

Human Skeletal Remains

Goodwin does not curate any human skeletal remains recovered from military installations.

Records Storage

Goodwin maintains a total of 0.4 linear foot (5 linear inches) of records from Aberdeen and Fort Detrick (Table 17). Records are stored in the same storage area and primary containers as are the artifacts, with the records generally laid on top; this is not an archival procedure. Original copies of the documentation are filed in an off-site storage facility.

Paper Records

There are approximately 4.75 linear inches of paper records from Aberdeen and Fort Detrick. Most records are bound, but some are stored loose. There are multiple copies of the records, and they have been photocopied onto archival-quality acid-free paper. Records are organized by project. Bound material is stored in plastic three-ring binders, and label information includes project name and copy number. The paper records were in very good condition.

Photographic Records

Approximately 0.25 linear inch of photographic records from Fort Detrick is stored at Goodwin. Photographs are stored in archival-quality polyethylene sleeves, and are accompanied by photo logs photocopied onto acid-free paper. The black-and-white prints are labeled directly with pencil. Recorded information consists of project name, provenience, roll number, and exposure number. Slides are labeled directly with marker, and recorded information consists of project name, roll number, and exposure number.

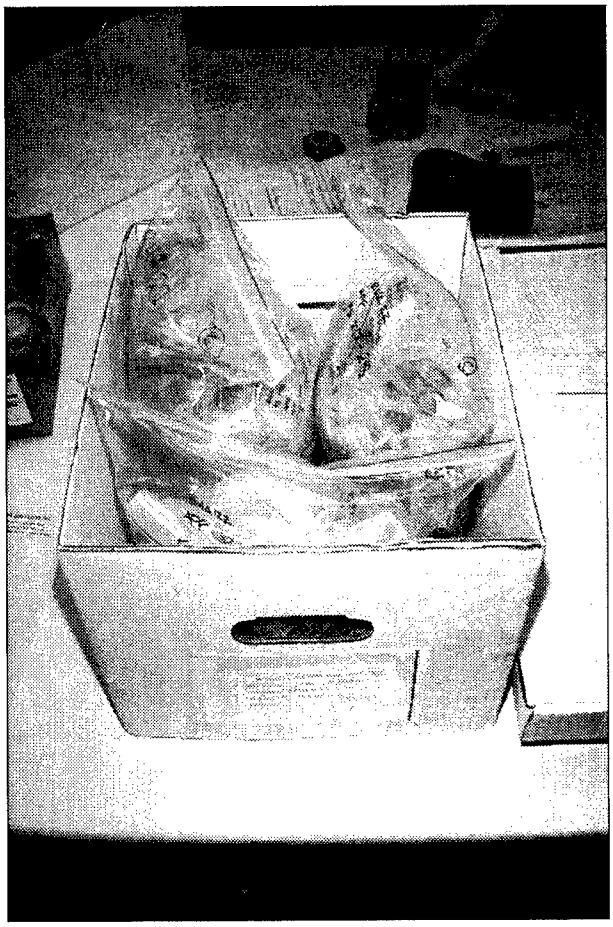

Figure 59. Zip-lock plastic bags labeled directly with black marker are used as secondary containers for the artifact collections at Goodwin. The box label is inside a zip-lock bag that is stuck to the front of the box.

Collections-Management Standards

Registration Procedures

Accession Files

There is no formal accessioning of materials upon receipt. The firm does keep a field specimen list, by lot number.

Location Identification

A list identifies the lab and storage facility in which materials from a project may be stored.

Table 17. Summary of Documentation (in Linear Inches), by Installation, at Goodwin

Installation	Type of Documentation		
	Paper	Photographs	Total
Aberdeen	3.50	—	3.50
Fort Detrick	1.25	0.25	1.50
Total	4.75	0.25	5.00

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

Except for the project reports, a published guide to the collections has not been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used. Sites are also organized within projects by name and location.

Computerized Database Management

Goodwin uses dBase III & IV to manage its files. Backup copies are kept on disk, and are updated each time the files are edited. They are stored in-house; no copies are stored off-site.

Written Policies and Procedures

Minimum Standards for Acceptance

Written minimum standards for acceptance are provided by every state in which Goodwin works.

Curation Policy

There is a comprehensive plan for curation, but it is a very old document. This policy addresses the receipt, processing, and use of materials, but not the future preservation of those materials, since this is not a function of the organization.

Records-Management Policy

Guidelines and standards for the curation of associated documentation are addressed according to the policies of the archaeology offices of the states in question.

Field-Curation Procedures

There are no field-curation guidelines; however, a field specimen list is created from a lot-number list assigned in the laboratory.

Loan Policy

There are no written loan procedures. If a researcher requests a loan of materials, Goodwin contacts the owner of the material and its final repository, and an agreement is reached.

Deaccessioning Policy

Goodwin does not deaccession material.

Inventory Policy

There is no inventory policy in place, but there is an initial inventory of field specimens that is kept and checked until the artifacts and documentation are deposited at the final repository.

Latest Collection Inventory

Goodwin is not a long-term curation facility but transfers collections to state repositories for long-term care. Collections are constantly being inventoried.

Curation Personnel

Terry Reimer is a part-time curator for the archaeological collections. Although Ms. Reimer is the person responsible for curation, at least 12 field crew archaeologists in the Frederick office have some shared curatorial duties. Christopher Goodwin is the president and CEO of the firm.

Curation Financing

Curation is included as a line item in budgets for archaeological projects undertaken by Goodwin.

Access to Collections

Collections are readily accessible, and access is controlled by Ms. Reimer. She is the staff member most familiar with the holdings and their locations.

Future Plans

As a consulting firm, Goodwin gives higher priority to the recovery of artifacts than to curation, but there are tentative plans to add more storage space, especially as the firm expands to work in new states.

Comments

1. Artifacts are stored in acid-free Hollinger boxes. Multiple copies of associated documentation photocopied onto acid-free paper are stored in these same boxes. Documentation is bound in plastic three-ring binders.

2. Photographic materials are stored in archival-quality polyethylene sleeves.

3. Though the facility does not have a sprinkler system, it does have an integrated fire-detection system that is continually monitored by the fire department and operates by detecting fires within zones.

4. The facility has an integrated intrusion alarm system, anchored by entry and motion sensors.

5. Many windows on the ground floor pose a security risk, including two in the collections storage area.

6. Two glass exterior doors across and down the hall from the collections storage area represent a security risk.

7. The two doors leading into the collections storage area are hollow core wood and lack locks.

8. Humidity is not monitored or controlled within the collections storage area.

Recommendations

1. Remove associated documentation from the artifact primary containers and place it in separate archival-quality containers. Remove documents from plastic three-ring binders and store them loose in acid-free folders.

2. Install multiple fire extinguishers throughout the repository as soon as possible. Funds permitting, install a sprinkler system. While the fire-detection system linked to the fire department is important, collections can be lost in the time it takes firefighters to arrive.

3. Replace the two doors leading to the collections storage area with either metal or solid-core wood doors, and add a series of locks.

4. Replace the glass door leading to the exterior with a metal or solid-core wood door with multiple locks.

5. Install an HVAC system. If not feasible, monitor humidity with a sling psychrometer or hygrothermograph and install a commercial dehumidifier.

6. If it is not feasible to completely close off the windows in the collections storage area, install stronger locks to them for added security. Add blinds to the windows for security and environmental purposes.

22

Gray & Pape

Richmond, Virginia

Repository Summary

Volume of Artifact Collections: 18.8 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Linear Feet of Records: 3 linear feet (35.75 linear inches)

Compliance Status: Associated documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Status of Curation Funding: Curation of collections is accomplished through line-item budget allocation. The staff feels that funding is adequate for the firm's goal of temporary curation of artifacts and associated documentation.

Date of Visit: May 4, 1995

Points of Contact: Len Winter and Betsy Cassebeer

G&P is a private consulting firm with offices in Cincinnati, Ohio; Richmond, Virginia; and Tehachapi, California. The Richmond office is currently housing 18.8 ft^3 of artifacts (Table 18), and 3 linear feet of documentation (35.75 linear inches) from Fort A. P. Hill and Fort Lee. The firm is not viewed as a permanent curation facility, but merely a temporary one while artifacts await acceptance to the state repository. Table 19 illustrates the types and percentages of material classes present in the military collections.

Table 18. Summary of Military Collections, by Installation, at G&P

Installation	Volume of Artifacts (ft^3)
Fort A. P. Hill	3.2
Fort Lee	15.6
Total	18.8

Assessment

The G&P Richmond office occupies rental space in the Shockoe Bottom section of Richmond, east of downtown (Figure 60). The building was originally constructed in the 1880s as a storefront pawn shop. Sometime in the mid-1900s, a group of architects renovated and occupied the building. It is sometimes referred to as the SWA building, in reference to the architect group. The latest renovations occurred in 1994–1995, when interior walls and other improvements were added.

Table 19. Summary, by Volume, of Material Classes Present in Military Collections at G&P

Material Class	%
Prehistoric	
Lithics	41
Soil	9
Ceramics	4
Faunal remains	4
Shell	3
Botanical	< 1
Historical-period	
Ceramics	12
Metal	12
Brick	8
Glass	5
Miscellaneous (synthetic)	1
Total	100

Structural Adequacy

The G&P facility measures approximately 4,000 ft^2 of floor space, and includes work areas for all the firm's functions. The foundation and exterior walls of the repository are composed of brick. The roof is a single-ply rubber membrane covering metal, and is approximately two years old. The entire structure is solid, with no cracks or leaks. There are four floors, three above grade and one below. G&P occupies one floor above grade and the one below. The top two floors are devoted to residential apartment space.

The repository has five windows and a transom on the south end, all facing an alley breezeway. The entire north side of the building, aside from the entrance, is composed of opaque glass blocks. Window frames are made of wood, and the entrance doors are primarily glass.

The collections storage area measures approximately 200 ft^2 and is separated from the remainder of the main floor repository only by a set of book-shelves. The floor is oak, and the interior walls are wallboard/Sheetrock. The ceiling is molded tin. Two windows are located in the collections storage area. The collections storage area is filled to approximately 50 percent capacity with archaeological collections. The area can be used as an artifact holding, washing and processing room, temporary storage, and a study room.

Environmental Controls

The repository has central air-conditioning and forced-air heating, each divided into two zones.

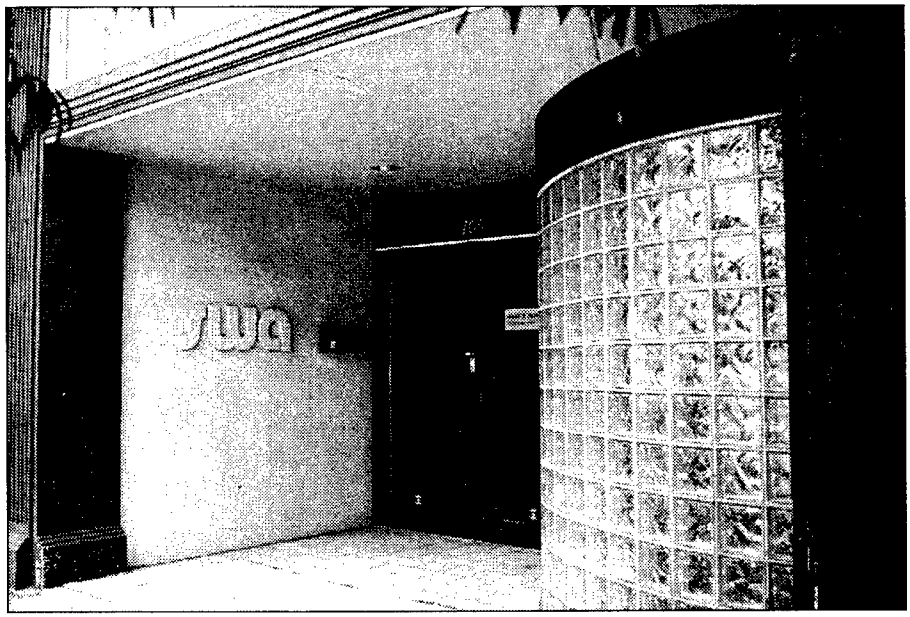

Figure 60. Entrance to the G&P offices.

Floor fans are also used for cooling. The downstairs collections storage area, which does not hold military collections currently, is not equipped with environmental controls. Humidity is not monitored or controlled in the main offices or in the collections storage area. There is, however, a commercial dehumidifier located in the downstairs area. There are no dust filters on the controls. General maintenance and cleaning are provided by the landlord and a contracted private cleaning service which visits biweekly. Incandescent bulbs are used for lighting.

Pest Management

There is no integrated pest-management system. Pests have not yet posed a problem, but if the need arises, precautions will be taken on an as-needed basis.

Security

G&P uses multiple security measures, including motion detectors, key locks, dead bolt locks, and simple window locks. There is also an intrusion alarm on doors and windows that is wired into a private security company. The windows on the south side of the repository are equipped with metal bars. There are no security measures unique to the collections storage area.

Fire Detection and Suppression

The repository is equipped with a sprinkler system for fire suppression on both floors, and four chemical fire extinguishers. There is no fire-detection system.

Artifact Storage

Storage Units

Primary containers for artifacts are stored on two baked-enamel metal uprights with particleboard shelves (Figure 61). The shelves measure 36 × 18 × 71 inches (w × d × h) and are located in the collections storage area.

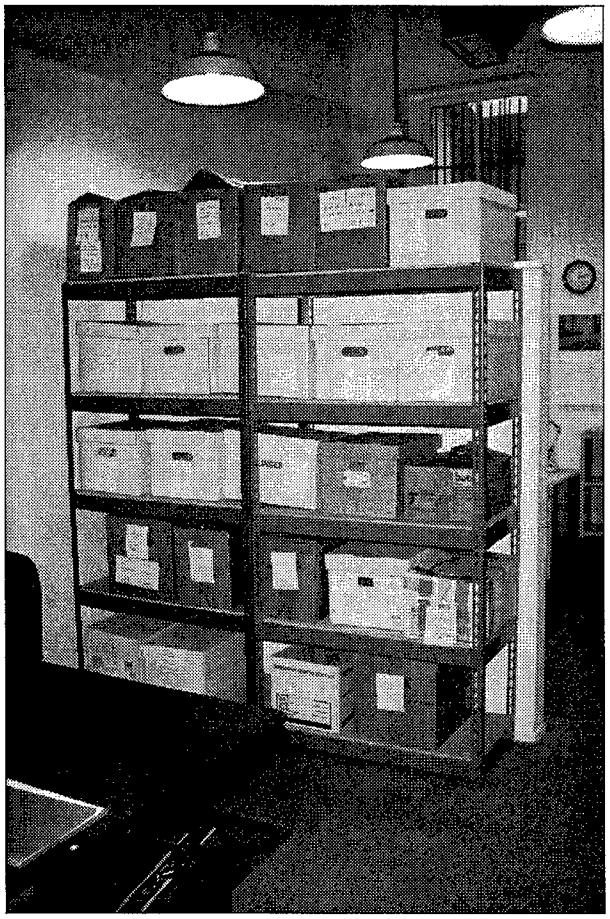

Figure 61. Temporary storage of materials awaiting processing at G&P.

Primary Containers

Artifacts from Fort A. P. Hill and Fort Lee are stored in 14 primary containers. Nine of these (all Fort Lee), consist of acid-free Hollinger boxes each measuring 1.4 ft^3, and equipped with telescoping lids. The remaining five primary containers are acidic-cardboard boxes—three measure 1.2 ft^3, one measures 1.3 ft^3, and one measures 1.7 ft^3. Two have telescoping lids; three have folded flaps. Labels on most of the boxes consist of preprinted tags on acid-free paper taped to the box. Label information consists of project, project number, contents, and bags in catalog number order. A single box has an acidic-paper tag stapled to the end. Label information for this box consists of firm, project number, and site numbers.

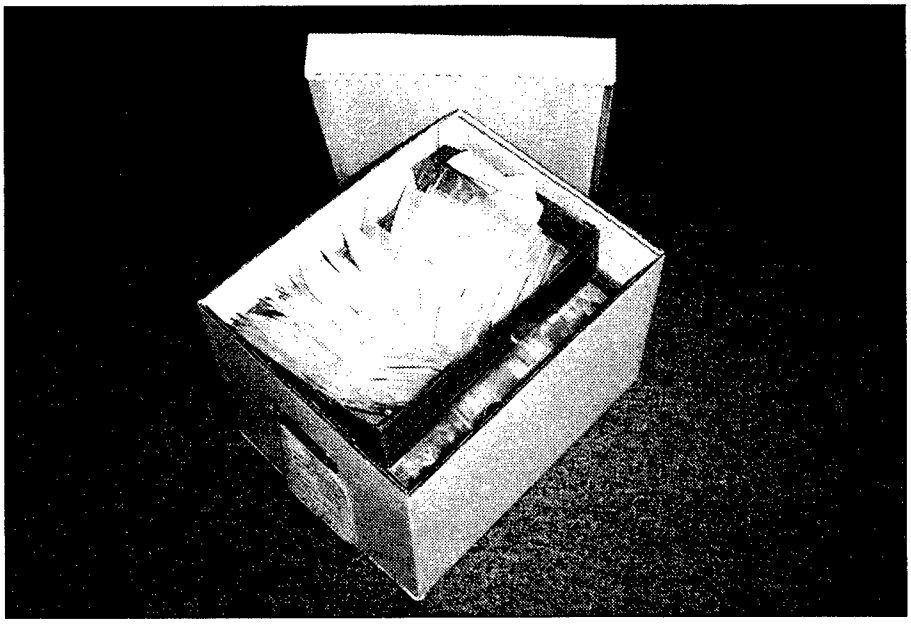

Figure 62. Flats of zip-lock plastic bags are stored within cardboard boxes at G&P.

Secondary Containers

Secondary containers consist almost entirely (> 99%) of zip-lock, 4- and 6-mil polyethylene bags (Figure 62). Less than 1 percent are paper bags. Most secondary container labels consist of acid-free-paper tags inserted into zip-lock bags, although there are a few direct labels in marker. Information is usually laser printed, and consists of project, field site number, provenience, catalog number, and contents. There are multiple tertiary containers within the secondary containers, all consisting of the same zip-lock polyethylene bags with the same type of labels and label information. Most primary containers contain two layers of secondary containers stacked vertically on cardboard trays.

Three of the primary containers housed collections not fully processed at the time of the St. Louis District personnel visit. These collections also were contained in zip-lock polyethylene bags, but bagged with them were the original field-collection paper bags. Provenience information from the paper bags is then transferred to the artifacts and to the laser-printed tags stored in the zip-lock bags.

Laboratory Processing and Labeling

All of the artifacts have been cleaned and sorted by material class. Approximately 60 percent of the artifacts have been labeled, with site number and catalog number inked directly on the artifact or on archivally stable acrylic.

Human Skeletal Remains

G&P is not currently curating any human skeletal remains recovered from military installations.

Records Storage

There are approximately 3 linear feet (35.75 linear inches) of documentation associated with archaeological projects conducted on military installations. Of this total, 2 linear feet (23.75 linear inches) are documents on work conducted on Fort Lee, and 1 linear foot is documentation on work conducted on Fort A. P. Hill.

The storage unit for the documentation is a metal, four-drawer lateral file cabinet measuring 42 × 18 × 65 inches (w × d × h). File cabinet drawers are labeled with a paper insert, with project numbers written in pen or marker. Of the total 3 linear feet, only 0.25 linear inch of paper records is stored separately from this file cabinet. These records are located in one of the acidic-cardboard boxes housing the associated artifacts.

Paper Records

Paper records consist of administrative, background, survey, excavation, and analysis records. All of these specific records are stored in the lateral file cabinets, some in manila folders and some in accordion files. Labels, though not present on all documentation folders, consist of project number and type of records, usually written in pen or marker. Computer files serve as the primary preservation and security copies of the documents. Records are arranged by internal project number (e.g., 93-65 for Fort A. P. Hill; 93-73 for Fort Lee). Some records contain contaminants (e.g., paper clips and staples).

The 0.25 linear inch of paper records stored with the box of artifacts is an inventory contained in a manila folder. The inventory is printed on acid-free paper.

Photographic Records

Photographic records consist of color prints, black-and-white prints, negatives, and contact sheets. Most of these materials, except for negatives, are labeled on the back with the project name and number, and the roll number. Photographic records are stored with the paper records.

Maps and Oversized Documents

These documents consist of large and small maps and drawings. They are stored folded with the paper records.

Project Reports

Reports are stored with the paper records.

Collections-Management Standards

G&P is not a permanent curation facility; therefore, collections management standards do not apply.

Registration Procedures

Accession Files

Collections are not accessioned.

Location Identification

The location of collections is not identified in any document.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

There is no published guide to the collections.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used for site identification.

Computerized Database Management

G&P uses Paradox, dBase III, III+, or IV, depending on the requirements of the project. Backups of files are created monthly, and are stored on disk locally and in the Cincinnati office. Tape storage will soon be acquired. There is no network currently, but computers will soon have password-access setups. Up to four staff members have access to the files, but in order to edit the records they must go through the lab manager.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no written minimum standards for acceptance.

Curation Policy

There is no written curation policy.

Records-Management Policy

There is no written records-management policy.

Field-Curation Procedures

There are no written field-curation guidelines.

Loan Policy

There are no written loan procedures.

Deaccessioning Policy

There is no written deaccessioning policy.

Inventory Policy

There is no written inventory policy.

Latest Collection Inventory

Collections are inventoried as they are processed, before being sent to a permanent repository.

Curation Personnel

The lab manager, Ms. Betsy Cassebeer, has full-time responsibility for the collections, but the regional manager, Dr. Len Winter, is ultimately responsible for all office functions.

Curation Financing

Curation is financed through line-item budget allocations. For the short-term curation goals of the firm, financing is adequate.

Access to Collections

All staff members have access to the collections, but must first go through the lab manager. Outside researchers are allowed access to the collections, but must first contact both the regional and lab managers.

Future Plans

There are no future plans for upgrading the curation program.

Comments

1. Humidity is not monitored or controlled in the offices or the upstairs collections storage area. The downstairs collections storage area has a commercial dehumidifier, but no air-conditioning or heat.

2. There is no integrated pest-management system. Problems are addressed on an as-needed basis.

3. There is no fire-detection system.

4. Five of 14 primary containers are acidic-cardboard boxes.

5. Secondary containers for most associated documentation consist of acidic manila folders and accordion files. No duplicate copies of records have been produced.

Recommendations

1. Install an HVAC system for both levels of the repository. If not feasible, purchase a commercial dehumidifier for the upstairs, and monitor humidity levels on both floors with a hygrothermograph or a sling psychrometer. If possible, also add central air-conditioning and forced-air heating to the bottom floor.

2. Begin an integrated pest-management system that includes monitoring and control.

3. Add a fire-detection system which includes heat sensors, smoke alarms, and a fire-alarm system that is wired into the local fire department.

4. Rebox artifacts currently in acidic-cardboard primary containers into acid-free-cardboard boxes. Remove cardboard trays currently used to store additional levels of artifacts in primary containers, and distribute those artifacts to additional acid-free primary containers.

5. Remove documentation from acidic manila folders and accordion files, and file in acid-free folders. Produce copies of documentation on acid-free paper and store in a separate, secure location.

23

Harford County Archaeological Society

Harford County, Maryland

Repository Summary

Volume of Artifact Collections: 26 ft^3 (including 1 ft^3 human skeletal remains)

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Linear Feet of Records: 0.25 linear foot (3.0 linear inches)

Compliance Status: All associated documentation requires complete rehabilitation to comply with existing federal guidelines and standards for curation for archaeological documentation.

Human Skeletal Remains: Approximately 1 ft^3 of human skeletal remains recovered from Aberdeen are located at this facility. A minimum number of individuals was not ascertained as most of the remains were mixed with remains not associated with Aberdeen.

Status of Curation Funding: A $500.00 fund has been set aside specifically for the curation of the Cresthull collection.

Date of Visit: January 24, 1996

Points of Contact: Bill Mcintyre and Norma Wagner

HCAS does not have a designated repository for their exclusive use. The society is made up entirely of volunteers who were given permission to store archaeological collections in the attic of the Harford Glen Mansion, within the Harford Glen Environmental Education Center complex. This storage space is filled with the Paul Cresthull collection. Acquired from the Cresthull family, this collection was recovered from many sites in Harford County, including Aberdeen, over the last 25 years. Upon Paul Cresthull's death, his family donated most of the archaeological collection to HCAS. The collection is incomplete, however, as a collection of faunal remains was sold to a foundation in Philadelphia, Pennsylvania, and Cresthull's family retained an undetermined amount of the collection. A complete artifact catalog has never been found, and the entire contents of the collection are unknown.

The evaluation team assessed approximately 25 ft^3 of archaeological collections that were labeled with site numbers known to have been assigned to Aberdeen. Evaluation of the collection was difficult, as the artifacts were not organized by site number, but rather by the collector's interest, current project, or artifact type. Several enclosed mounts, for example, contained projectile points labeled with site numbers from

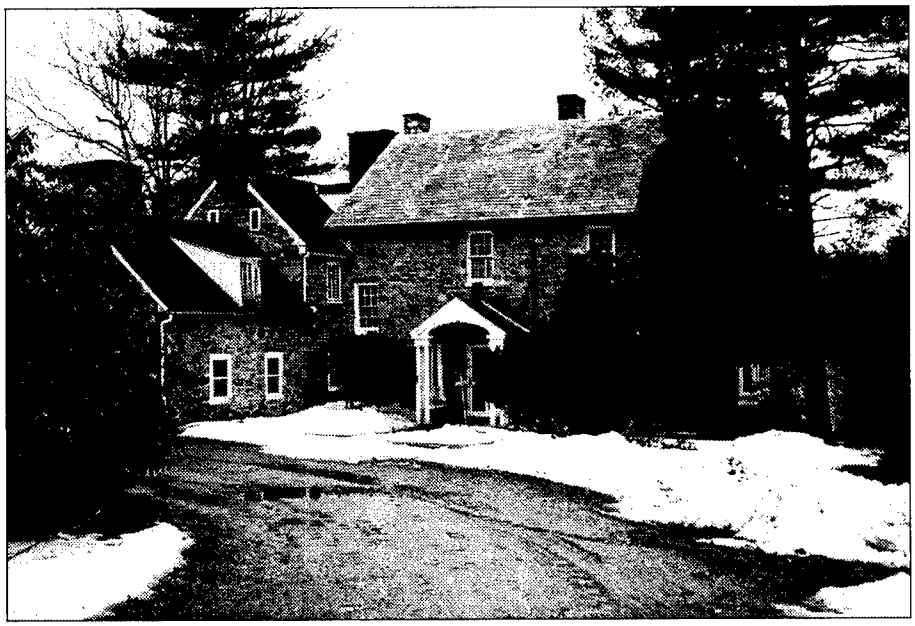

Figure 63. View of the Harford Glen Mansion. HCAS uses the attic as a collections storage area.

Aberdeen. Associated documentation is also organized in a numbered system developed by Paul Cresthull; however, the pattern of numbers has not yet been deciphered by HCAS. The team assessed a small portion of records relating to sites on Aberdeen. Missing records may still be in two file cabinets of documentation located in the basement of one of HCAS's members.

Assessment

The Harford Glen Mansion was originally a stone farm house dating to approximately 1827 with a wing added in the 1930s (Figure 63). There have been extensive internal renovations converting the farm house into classrooms, offices, and meeting rooms. The house, land, and out buildings are now used by the county school system as an environmental education center.

Structural Adequacy

The house's foundation and exterior walls are constructed entirely of stone and mortar. The roof has oak rafters and beams covered with slate tile. The age of the roof and the date of any recent repairs are unknown. There are three floors above grade, including the attic (Figure 64), and one floor partially below grade where the furnace is located. Numerous windows on all side of the building have wood frames that are known to be drafty and leak water. The 400-ft^2 attic has a wood floor, where several boards are missing because of repairs on the plumbing and electrical systems (Figure 65). The lack of storage space has made the area cluttered with artifacts and containers.

Environmental Controls

The building's environmental controls are maintained by the county school system. A custodian for the buildings lives on the property. Harford Glen Mansion is equipped with an oil and hot-water radiator heating system; however, the attic where the collections are stored is not heated. There are no humidity monitors or controls for the facility. Lighting in the collections storage area is provided by natural light through the attic window, an overhead light fixture with an incandescent bulb, and a free-standing mount with two halogen bulbs. UV filters are not used. The collections storage area is cleaned as-needed by members of HCAS.

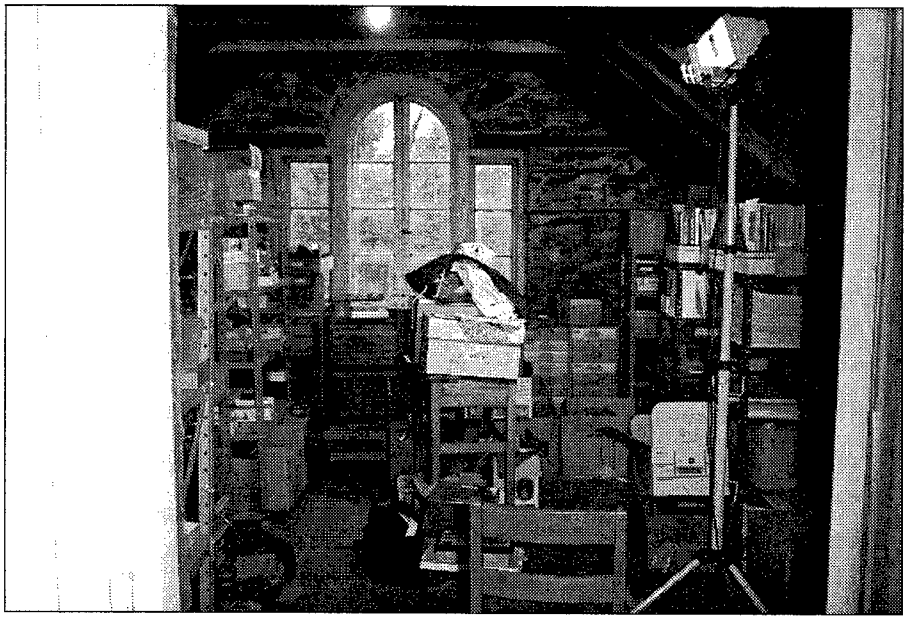

Figure 64. View of the mansion's attic where collections recovered from Aberdeen are stored. Note the borrowed, free-standing halogen lights used to help illuminate the room.

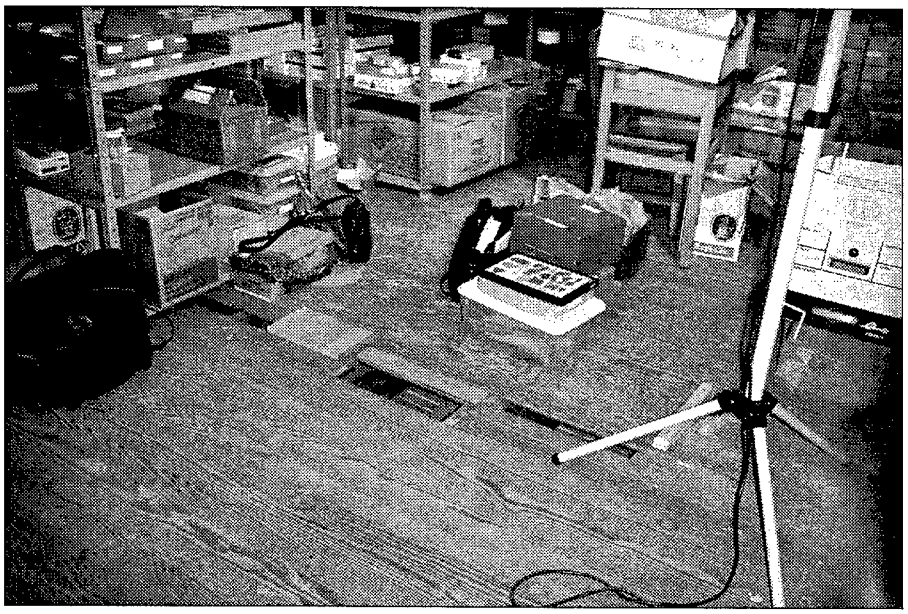

Figure 65. Missing floor boards are a safety hazard and the result of current repair work on the electrical system.

Pest Management

An integrated pest-management program has not been established at this facility. A professional exterminator sprays for insects every spring. The evaluation team noted significant problems with pest infestation. Wasps and wasp nests and various other crawling and flying bugs are in the collections storage area. It was also noted that snake skins are occasionally found in the collections.

Security

The Harford Glen Mansion has an intrusion alarm that is wired to the county sheriff. All exterior doors have both key and dead bolt locks. All windows are kept locked. A custodian lives on the property and watches for any unauthorized access. Motion-sensor lights illuminate the property when triggered. The compound gate is locked at the entrance road after hours.

Fire Detection and Suppression

Fire-detection and -suppression systems the building consist of smoke alarms and fire extinguishers. The attic—where the collections are stored—does not have either of these measures.

Artifact Storage

The artifact collections located in this facility have been collected by Paul Cresthull over a period of 25 years. Refer to Table 20 for the percentage of material classes present in the collections recovered from Aberdeen. Human skeletal remains have been included in this table. It is undetermined whether the remains are prehistoric, historical-period, or a combination of both.

Table 20. Summary, by Volume, of Material Classes Present in Aberdeen Collections at HCAS

Material Class	%
Prehistoric	
Lithics	39
Shell	5
Human remains	4
Ceramics	3
Historical-period	
Ceramics	35
Glass	6
Metal	4
Faunal remains	2
Other[a]	2
Total	100

[a] "Other" includes faunal remains, pipe stems, and a firearm flint.

Storage Units

Archaeological collections are stored on adjustable metal shelving units measuring 3 × 1.5 × 5 feet (w × d × h) (Figure 66). Shelves are not labeled.

Primary Containers

Approximately 26 ft^3 of archaeological artifacts and human skeletal remains recovered from Aberdeen are stored in a variety of containers including acidic-cardboard boxes without lids, glass mason jars, plastic pencil boxes, wood cases, plastic vials with lids, and glass Riker boxes. The containers are arranged haphazardly on the shelves, making the identification of

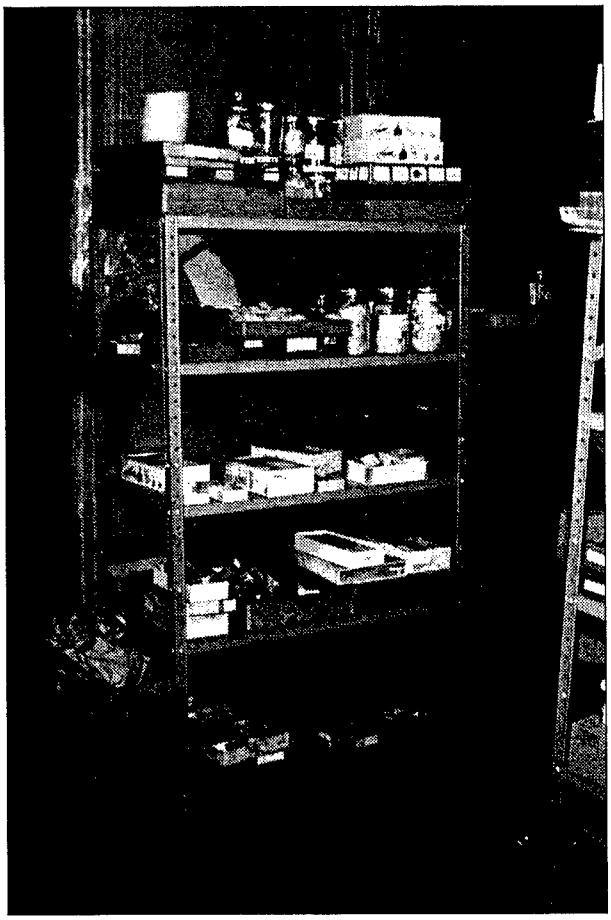

Figure 66. Metal shelving units are used to hold the variety of primary containers storing the Aberdeen collection.

Table 21. Summary, by Volume, of Secondary Containers Used for Aberdeen Collections at HCAS

Container Type	%
Plastic cases	26
Acidic-cardboard boxes	23
Glass mason jars	20
Wooden cases	20
Loose	9
Paper bags	2
Total	100

collections somewhat difficult. If the primary containers have labels, they are written in pen and marker on adhesive labels or directly on the containers.

Secondary Containers

Secondary containers for all the artifact collections are similar to those used as primary containers. Refer to Table 21 for the approximate percentages of secondary containers used to package these collections.

Laboratory Processing and Labeling

The majority (95%) of the artifacts have been cleaned, labeled (86%), and sorted by material class (80%). The processing and labeling of the collections were performed by the collector. Site numbers have been are carefully labeled with ink directly on the surface of each artifact. A portion of the broken projectile points in the Cresthull collection have been filled in with plaster casts to show the original shape of the tool. Some of the human skeletal remains have been treated with a glossy substance.

Human Skeletal Remains

Human skeletal remains (~1 ft^3) recovered from Aberdeen are located on different shelves in the attic based on the type of bone. For example, a large plastic box with a fitted lid contains human long bones all labeled with a site number, some of which are from Aberdeen. All of the burials are thought to possibly date to the colonial period. Further investigation into the provenience of the skeletal material is needed.

Records Storage

Paul Cresthull developed a numbered coding system to manage his records (Figure 67). Records pertaining to a single site have all been separated out by record categories. Two file cabinets of associated documentation which may or may not have records pertaining to his work on Aberdeen are located in the basement of a house belonging to one of the society's members. Bad weather and lack of space have prevented the transfer of these records to the Harford Glen Mansion.

Paper Records

Approximately 3 linear inches of background records, survey records, analysis records, and folded topographic maps associated with the sites and collections from Aberdeen were found and assessed. Records are kept in a metal, four-drawer file cabinet. Documents are filed in letter-sized, acidic-paper envelopes that are labeled directly with black marker. The site number, name, and record number are written on the envelopes. Duplicate copies of the paper records have not been produced.

Photographic Records

The photographic and slide collections were not made available to the assessment team. These collections are currently being kept at the president of HCAS's house in an effort to better preserve the records.

Collections-Management Standards

Registration Procedures

Accession Files

Accession files are not used.

Location Identification

The location of the collection is not identified in any document.

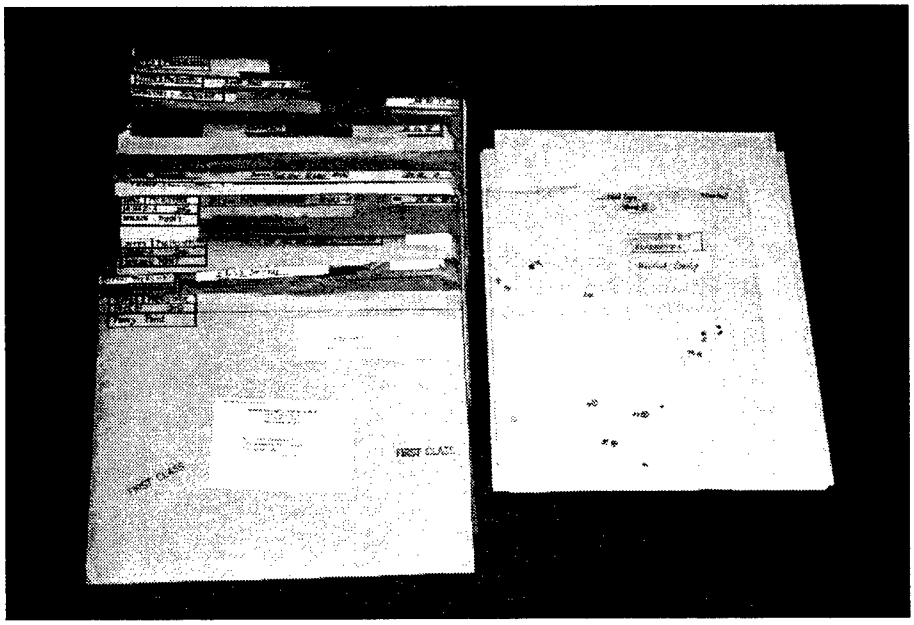

Figure 67. Original paper records associated with Aberdeen sites are filed in acidic envelopes and labeled with Cresthull's unique numbering system.

Cross-Indexed Files

Files are cross-indexed by Cresthulls' own numbering system that no one else has been able to decipher.

Published Guide to Collections

A published guide of the collections has never been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used. Numbers are assigned by MHT.

Computerized Database Management

Computerized database-management programs have not been implemented.

Written Policies and Procedures

Minimum Standards for Acceptance

Minimum standards for the acceptance of collections have not been established.

Curation Policy

A written curation policy has not been developed.

Records-Management Policy

A written records-management policy has not been developed.

Field-Curation Procedures

No formal field-curation guidelines have been written. When possible, state guidelines are followed.

Loan Policy

A written loan policy has not been developed.

Deaccessioning Policy

A written deaccessioning policy has not been developed.

Inventory Policy

A written inventory policy has not been developed.

Latest Collection Inventory

When the Cresthull estate was settled, a brief inventory of the collection was performed. HCAS is currently attempting to inventory the Cresthull collection and to determine its extent.

Curation Personnel

HCAS is a volunteer organization. They do not have any personnel devoted to the full-time curation of the archaeological collections.

Curation Financing

Curation activities are funded with a $500.00 fund that was specifically set up to care for the Cresthull collection. Additional financing is obtained through membership dues and small fundraising sales of merchandise such as t-shirts and coffee mugs.

Access to Collections

Access to collections is controlled by HCAS's President, Bill McIntyre. Occasionally, artifacts are used in educational outreach programs. None of the artifacts recovered from Aberdeen has been used.

Future Plans

Future plans for the curation program include obtaining help from interns and thesis students from university anthropology departments, and implementing a computerized database system to manage artifact and records collections.

Comments

1. The repository has heat, but not in the collections storage area. Window air-conditioning units are present in the main building.

2. Lighting is not UV filtered.

3. There is no integrated pest-management system, which is evident in insect and snake infestations.

4. There is no fire-detection or -suppression system in the collections storage area.

5. There are no collections-management policies.

6. Collections are not archivally stored.

7. Human skeletal remains are not inventoried for NAGPRA.

8. There is no staff devoted to the curation of collections.

9. Funding for curation is inadequate.

Recommendations

1. Collections should be stored in an environmentally controlled storage room.

2. Begin an integrated pest-management system that includes both monitoring and control on a regular basis.

3. Fire-detection and -protection devices need to be installed in the collections storage area.

4. Rebox and rebag artifacts into acid-free cardboard boxes and archival-quality polyethylene bags. Insert acid-free-paper labels into each plastic bag.

5. Inventory human skeletal remains to begin compliance with NAGPRA.

6. A professional staff of museum and curation specialists should be employed, or made available, to manage the collections.

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Hunter Research Associates

Trenton, New Jersey

Repository Summary

Volume of Artifact Collections: None

Linear Feet of Records: 0.75 linear foot (9 linear inches)

Compliance Status: All associated documentation requires partial rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: A standard curation fee is charged to clients in the terms of agreement for the project.

Date of Visit: December 6, 1995

Point of Contact: Ian Burrow

HRA is a private contracting firm which has performed archaeological reconnaissance work on land owned by Adelphi Labs. The artifact collections resulting from their work have been forwarded to USACE Baltimore District offices for curation. All of the original associated documentation is located in several rooms throughout the offices of HRA.

Assessment

HRA occupies the majority of a 6,000-ft^2 building (Figure 68) that was built in 1892 and was originally used for the German-American Social Club. The firm shares the building with a small store on the first floor. Records are currently stored in four separate collections storage areas. Collections Storage Area 1 is the administrative office where all the active project files are kept; Collections Storage Area 2 is the hallway where the photographic records are stored; Collections Storage Area 3 is the large office area where the oversized maps are stored; and Collections Storage Area 4 is the processing lab where the smaller maps for reports are kept.

Structural Adequacy

The building has a stone foundation and brick exterior walls. The type of roof is unknown. It has not been replaced during the seven years that HRA has been there. The building has a total of four floors, three are above grade and one below grade basement. Windows of various shapes and sizes are on all sides of the building and most of them do not have shades. The wood frames have never been replaced; however, personnel have never experienced any drafts or water leaks.

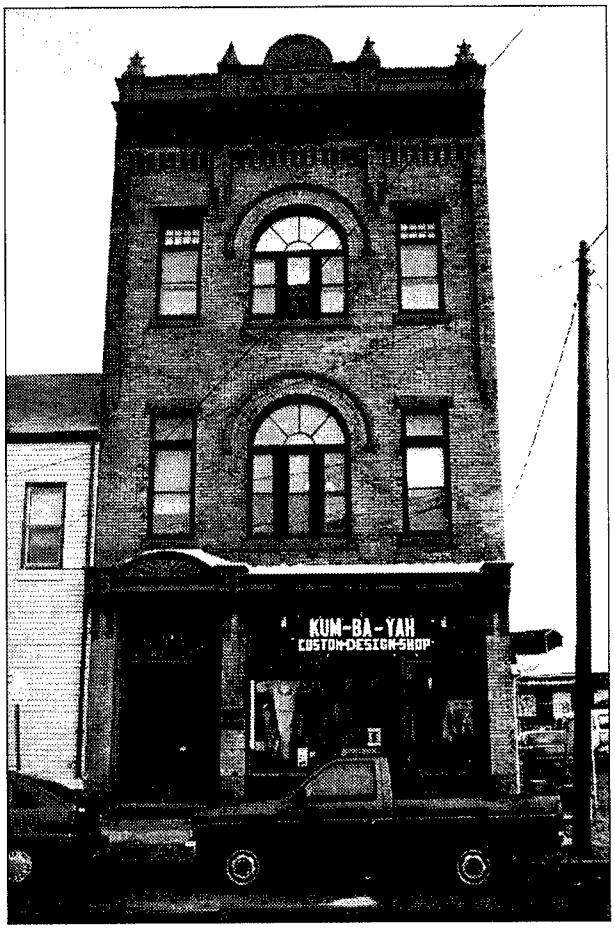

Figure 68. Exterior of building where HRA offices are located.

Environmental Controls

This building has radiators for heat and a few window air-conditioning units. There are no dust filters present. Humidity levels are not monitored or controlled. Incandescent bulbs are used in the light fixtures. The owner of the building is responsible for all maintenance, while the tenants are responsible for cleaning their areas as needed.

Pest Management

Precautions are taken against insects and rodents on an as-needed basis; however, there has been an occasional problem with mice.

Security

The building has an intrusion alarm that is wired to a private security company. Motion detectors have been installed and all doors and windows are kept locked. There is no evidence of unauthorized access, nor has there ever been an episode of unauthorized entry into the building. The collections located here are not considered to have a high market value.

Fire Detection and Suppression

Manual fire alarms and smoke detectors are located throughout the building. Dry chemical fire extinguishers are present on all floors of the building.

Records Storage

Approximately 9 linear inches of associated archaeological documentation and reports are stored in four collections storage areas in the building. Collections Storage Area 1 is the administrative office where all the active project files are kept, Collections Storage Area 2 is the hallway where the photographs are stored, Collections Storage Area 3 is the large third-floor office area where the oversized maps are stored, and Collections Storage Area 4 is the processing lab where the smaller maps for reports are kept. Duplicate copies of all original documentation have not been produced.

Paper Records

Approximately 3 linear inches of administrative, survey, and excavation records are kept in Collections Storage Area 1. Records are filed in large manila folders labeled with the project number.

Photographic Records

Negatives, slides, and contact sheets (1 linear inch) are housed in three-ring binders that are stored on wood bookshelves in the second floor hallway, Collections Storage Area 2 (Figure 69). Photographs are labeled with the project number.

Project Reports

Three linear inches of a project report are stored in Collections Storage Area 1. The report is bound and has an adhesive, computer-generated label on its spine.

Maps and Oversized Documents

Two linear inches of large maps are stored on the third floor in Collections Storage Area 3. A flat map case is in the corner of an open work area; however, most maps are kept rolled on top of the map case. The Adelphi Labs maps are rolled and kept together with a rubber band. Small maps generated for the reports are stored in wood drawers beneath the large lab table in Collections Storage Area 4 (Figure 70).

Collections-Management Standards

HRA does not view itself as a permanent curation facility and does not have many of the written guidelines and procedures recommended.

Registration Procedures

Accession Files

Accession files are kept for the collections. In the field, every bag gets a unique number for accessioning purposes to keep track of the collections in and out of the field.

Location Identification

The location of the collection is not identified in the accession file.

Cross-Indexed Files

Files are cross-indexed by project number.

Published Guide to Collections

Except for the project reports, a published guide to the collections has never been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used to identify archaeological sites.

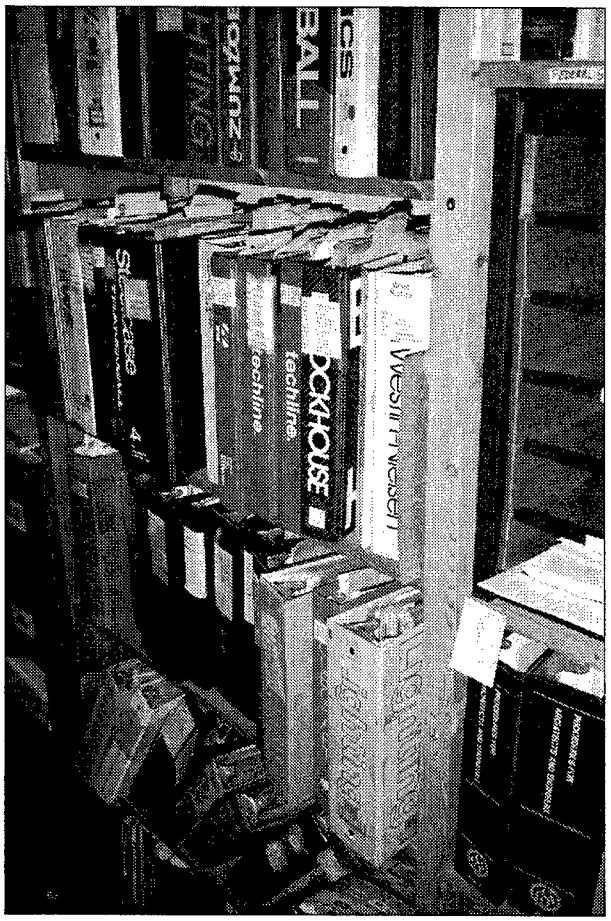

Figure 69. A variety of three-ring binders are used to store photographic materials at HRA. The binders are arranged on wood shelving units in the second floor hallway.

Computerized Database Management

Computerized database-management programs are used and backups are made weekly on tape.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards exist; only collections associated with HRA projects are stored there temporarily.

Curation Policy

A comprehensive plan for curation has not been established.

Records-Management Policy

A series of color-coded files are kept for each project. For example, there is an administrative

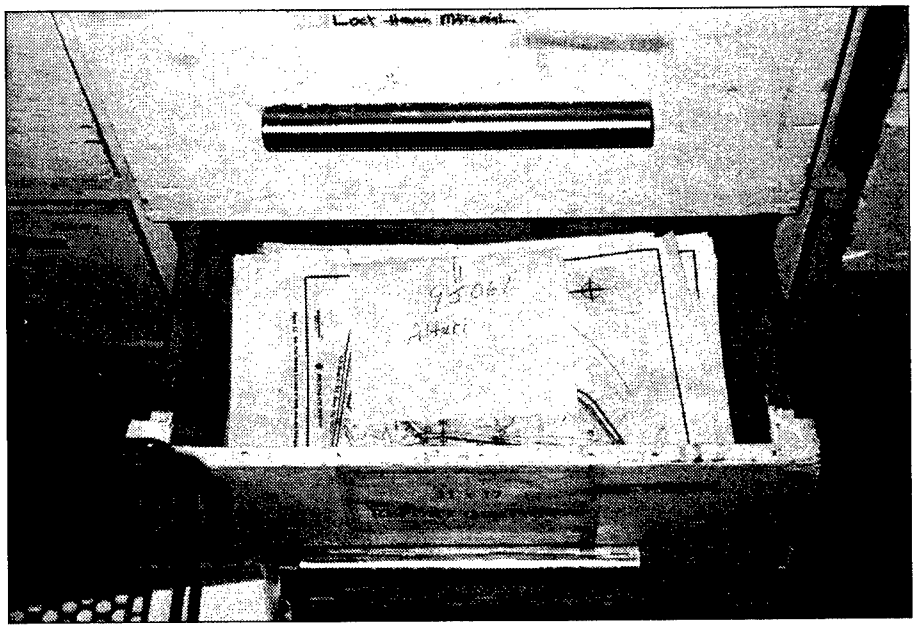

Figure 70. Wood drawers beneath the lab table are used to store small maps at HRA.

file, contract file, research file, works file, and associated records file that are all coded with the same unique project number. The records manager is responsible for the records maintenance and security.

Field-Curation Procedures

No formal field curation guidelines have been written.

Loan Policy

No collections have ever been loaned.

Deaccessioning Policy

A deaccessioning policy has been established.

Inventory Policy

An inventory policy will be included in the lab manual being developed.

Latest Collection Inventory

The date of the last collections inventory is unknown.

Curation Personnel

HRA has a full-time lab supervisor and assistant for the archaeological collections whose primary responsibilities include the processing, cataloging, and disposition of artifacts. HRA does not consider itself a permanent curation facility and does not staff a full-time curator for archaeological collections.

Curation Financing

A standard curation fee is charged to clients in the agreement terms of the project. Additional financing is acquired through the company's overhead budget.

Access to Collections

Staff members have access to the collections; however, a formal policy regarding access to the collections by researchers does not exist. Interested researchers are granted access upon request.

Future Plans

Future plans include improvements to the building for better lab facilities and storage space.

Comments

1. Stable environmental conditions are not met.

2. There is no integrated pest-management policy.

3. There is no sprinkler system in any of the collections storage areas.

4. Original documentation is not stored in an acid-free environment. Duplicate copies of the documents do not exist.

5. Many of the written policies and procedures recommended for the management of associated documentation have not been established.

Recommendations

1. Install and maintain an HVAC system with a dust-filtration system that is capable of both the monitoring and control of temperature and humidity levels.

2. Develop a reliable pest-management plan which includes both regular monitoring and control methods.

3. Install a sprinkler system in all collections storage areas to protect collections from fire damage.

4. Make duplicate copies of all records on acid-free paper, and store these materials in a separate, fire-safe, and secure location.

5. Develop and implement the recommended policies and procedures for the efficient use and management of associated archaeological documentation.

25

James River Institute for Archaeology

Williamsburg, Virginia

Repository Summary

Volume of Artifact Collections: 2 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for curation. Artifacts should be removed from current acidic-cardboard boxes and nonarchival secondary containers, and placed in archival-quality, zip-lock bags and acid-free boxes.

Linear Feet of Records: 0.3 linear foot (4 linear inches)

Compliance Status: Associated documentation requires complete rehabilitation to comply with existing federal guidelines and standards for archival preservation. Records should be removed from acidic manila folders and acidic-cardboard containers, and placed in archival-quality containers. Duplicate copies should be produced and stored at a separate, secure location.

Human Skeletal Remains: None

Status of Curation Funding: Curation of collections is funded through consulting contracts. The staff feels that funding is adequate for the firm's goals.

Date of Visit: July 26, 1994

Points of Contact: Garrett Fesler and Diane Masters

JRIA is a private consulting firm. The firm is currently holding 2 ft^3 of artifacts and 0.3 linear foot (4 linear inches) of documentation from Fort Eustis. Table 22 lists the material classes of artifacts observed by the assessment team. The firm views itself as a temporary curation facility while artifacts await acceptance to the state repository. General repository and collections information were collected on a project for the Atlantic Navy Division (see Table 1).

Assessment

JRIA is located in a rented facility outside Williamsburg (Figure 71). Encompassing approximately 1,250 ft^2, the facility contains space for artifact receiving/loading, holding, washing, processing, and exhibit, as well as a records study area, records storage, and mechanical and supply rooms.

Structural Adequacy

Approximately 20–25 years old and originally used as a restaurant, this single-story facility

Table 22. Summary, by Volume, of Historical-Period Material Classes Present in Fort Eustis Collections at JRIA

Material Class	%
Metal	37
Brick	28
Ceramics	20
Glass	12
Shell	3
Total	100

was at some point converted to offices. JRIA has been renting the space for approximately two years. The building is constructed of concrete, including a concrete-slab foundation and concrete-block interior walls with a brick exterior. The roof is flat, composed of built-up asphalt. Renovations to the building occurred when it was changed into office space.

The facility has a structurally sound foundation and exterior walls. The roof occasionally leaks over the laboratory area, but not over the collections area. There are five windows in the building, all with wood frames. All windows but the south-facing one in the collections storage area have shades. Utilities in the facility consist of water, electricity, and telephone—all probably original to the building.

The collections storage area is located in the south third of the facility and encompasses approximately 500 ft^2 of floor space (Figure 72). It is separated from the rest of the offices by a single wood-panel door for which there is no lock. Adjacent to the south-facing window is a wood door to the exterior that has been sealed shut. An overhead loading garage door located in the west wall leads into a small storage area that is separated from the collections storage area by a single wood-panel door with no lock. The ceiling in the collections storage area is suspended acoustical tiles.

Within the collections storage area there is space for artifact receiving, holding, washing, processing, and storage. The collections storage area also houses a field and lab equipment storage area and mechanical room. Currently JRIA is approximately at 90 percent capacity for collections storage.

Environmental Controls

Temperature in JRIA, including the collections storage area, is controlled by central heating and

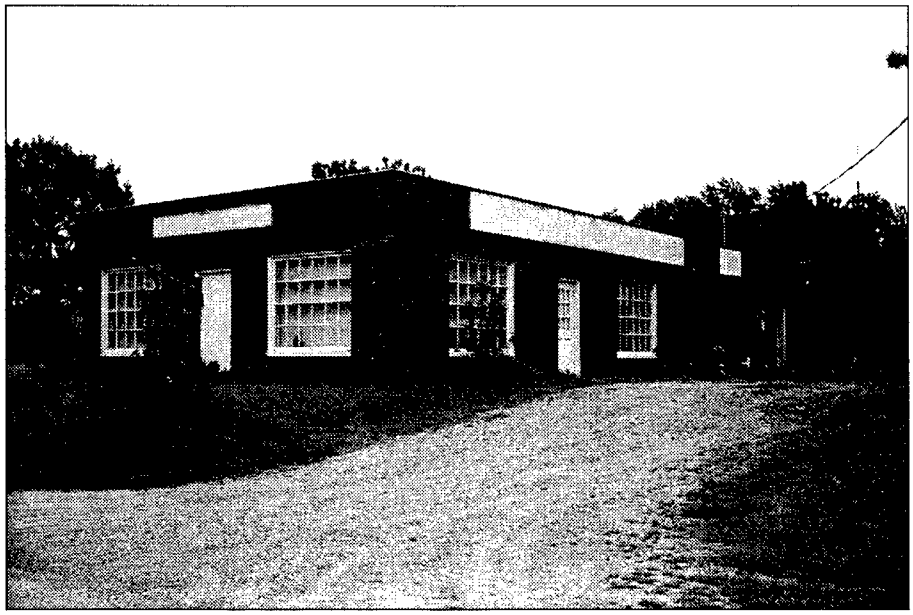

Figure 71. View of the JRIA repository.

Figure 72. View of the laboratory and collections storage area at JRIA.

air-conditioning. In addition to these controls, there are floor fans, space heaters, and radiators in the collections storage area. There are no dust filters on these systems. Humidity is not monitored, but regulation is attempted through placement of silica gel in select type collection artifact storage drawers. Building maintenance is conducted by the landlord on an as-needed basis; however, the collections storage area is cleaned regularly by the curatorial staff. At the time of the St. Louis District visit, a leaking air-conditioning unit had caused water damage to carpet and tile in the doorway between the collections storage area and the office space. Lighting is from fluorescent and incandescent fixtures, and natural light, without UV filters. There is noticeable water damage in the collections storage area ceiling around light fixtures.

Pest Management

There is no integrated pest-management system for JRIA. A professional pest control service is hired on an as-needed basis. There have been periodic problems with insects, but no collections have ever been infested.

Security

The facility maintains locks on all doors for security purposes. The garage door in the rear of the facility has a interior padlock and a crossbar. This door is made of wood, but has a metal frame. The front door has both key and dead bolt locks. On the north and west sides of the building there are night lights that activate at dusk. The adjacent Jamestown Settlement has 24-hour drive-by security which also covers the JRIA facility.

Window security is minimal. The windows on the north and west are sealed picture windows. The south window, located in the collections storage area, has a window lock. There have been no episodes of unauthorized entry, but in one case a staff member did forcibly enter through the south window.

Fire Detection and Suppression

Fire detection in the facility is accomplished by manual fire alarms. Fire suppression consists of two dry-chemical fire extinguishers, neither of which has an inspection tag. There is one fire extinguisher in the collections storage area and a firewall between the collections storage area and the rest of the repository.

Artifact Storage

Storage Units

Archaeological collections are stored on open metal shelving units measuring approximately 3 × 1 × 7 feet (w × d × h). Each unit is two to three shelves high, with boxes of artifacts stacked two high on most shelves.

Primary Containers

There are two primary containers housing artifacts from Fort Eustis. These containers are acid-free-cardboard boxes each with a volume of 1 ft^3 and a telescoping lid. Labels are computer-printed adhesive tags. Label information consists of installation and site numbers.

Secondary Containers

Secondary containers consist entirely of zip-lock plastic sandwich bags. All secondary containers are labeled directly with marker. Label information usually consists of installation and provenience, but sometimes includes field-site and sample numbers. Tertiary containers consist of zip-lock plastic bags.

Laboratory Processing and Labeling

All of the artifacts have been cleaned, and approximately 40 percent have been directly labeled. Plastic bag secondary containers contain acid-free-paper labels with installation and provenience recorded. All of the artifacts have been sorted by material class within provenience.

Human Skeletal Remains

JRIA does not curate any human skeletal remains from military installation archaeological projects.

Records Storage

JRIA maintains a total of 0.3 linear foot (4 linear inches) of original documentation from Fort Eustis. Records are stored on open metal shelves located in the main office area of the facility.

Paper Records

There are approximately 2.25 linear inches of paper records. Primary containers consist of acidic expandable files (Figure 73). Secondary containers are manila folders, labeled directly with marker. Label information consists of installation name. Documentation is organized by installation or project.

Maps and Oversized Documents

There is 1 linear inch of maps. Maps are folded and stored in the acidic expandable files with the paper records.

Project Reports

There is less than 1 linear inch of a report housed at JRIA. It, too, is stored in the acidic expandable files.

Figure 73. Associated documentation is filed in acidic expandable files which are labeled with the installation name.

Collections-Management Standards

Registration Procedures

Accession Files

The material is assigned an accession number that combines the state trinomial site number and provenience (e.g., 44JC308/14/b).

Location Identification

The location of artifact collections within the repository is not identified in the accession files.

Cross-Indexed Files

Files are not cross-indexed, but are organized by project.

Published Guide to Collections

Except for the project reports, a published guide to the collections has not been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used. Materials from sites are organized by project.

Computerized Database Management

JRIA uses a computerized database program, dBASEIII+. Backups are kept on disk and tape, and are updated frequently. There are backup copies stored off-site at the homes of two staff members, Ms. Straube and Ms. Masters. Off-site backups are updated weekly. JRIA operates a self-contained network to which all crew members have access.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no written minimum standards for acceptance of archaeological collections. Unofficially, however, collections are occasionally accepted from individuals. The ultimate objective of the firm is to deposit the collections with the state repository.

Curation Policy

There is no standard comprehensive plan for curation. The firm curates material on a case-by-case basis, depending on the type of contract entered into. JRIA is not viewed as a long-term curation facility, although some material is curated in perpetuity by default.

Records-Management Policy

There are no written policies for the curation of documentation.

Field-Curation Procedures

No field-curation guidelines have been established.

Loan Policy

There is no written loan policy. However, loans are granted on a case-by-case basis and are documented.

Deaccessioning Policy

There is no written deaccessioning policy. However, deaccessioning is done on a case-by-case basis and is documented.

Inventory Policy

There is no established inventory policy.

Latest Collection Inventory

There has been no regular collection inventory.

Curation Personnel

Beverly Straube (M.A.) is full-time curator for the archaeological collections. Sherrie Beaver (B.A.) is the part-time collections manager. In addition, JRIA employs a part-time artifact processor (M.A.) and a full-time soils floater (B.S.). Mr. Garrett Fesler is a research archaeologist for the firm.

Curation Financing

Curation is financed through a percentage of the contract, which is used for processing, supplies, and conservation, if appropriate.

Access to Collections

Access to collections is limited, but not controlled. Normally, three or four people out of a staff of 24 have complete access to the collections. Researchers are allowed access to collections when possible, but strictly on a case-by-case basis.

Future Plans

As a consulting firm, recovery of artifacts takes a higher priority than does artifact curation. JRIA is not considered a long-term curation facility, and there are no plans to upgrade the curation program.

Comments

1. Primary containers for artifacts are acid-free-cardboard boxes. Plastic sandwich bags used as secondary containers are not archival quality.

2. Primary and secondary containers for documentation are acidic expandable files and manila envelopes.

3. Small maps are folded and stored in the same acidic primary and secondary containers as the other records.

4. Two uninspected fire extinguishers are the only form of fire suppression.

5. Security is minimal; there are only simple window locks on windows in the collections storage area and no locks on any doors into this area. Window frames and doors are made of wood.

6. A leaking air conditioner damaged carpet and tiles in the entranceway to the collections storage area. Further leaking could damage the collections. There are also signs of roof leakage, as evidenced by water-damaged ceiling tiles in the collections storage area.

7. There is no integrated pest-management system.

8. Humidity is neither monitored nor controlled.

Recommendations

1. Inventory and replace acidic expandable files containing documentation with standard-sized, acid-free-cardboard boxes. Replace secondary artifact containers with zip-lock, 4-mil polyethylene bags, and label them in indelible ink. Interior labels made from spun-bonded, polyethylene paper (e.g. Nalgene polypaper) should be labeled in indelible ink and inserted into the polyethylene bags.

2. Place large-scale maps unfolded in archival-quality sleeves in the map flat.

3. Inspect fire extinguishers, note condition, and address existing inadequacies. If feasible, install a sprinkler system. Install smoke detectors and wire them into the local fire department to ensure 24-hour monitoring and protection.

4. Repair leaking air conditioner and any leaks in the roof.

5. Install an HVAC system, if feasible; if not, monitor humidity with a sling psychrometer or hygrothermograph and install a commercial dehumidifier.

6. Board and seal the windows in the collections storage area and install dead bolt locks on the two doors to this area.

7. Install an electronic security system and wire it into the local police department.

8. Begin a regular pest-control system that includes both monitoring and control.

26

Maryland Historical Trust

Crownsville, Maryland

Repository Summary

Volume of Artifact Collections: 13 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation. Artifacts should be removed from current acidic-cardboard primary containers and nonarchival secondary containers, and placed in acid-free Hollinger boxes and archival-quality zip-lock bags.

Linear Feet of Records: 0.1 linear foot (0.75 linear inch)

Compliance Status: Associated documentation requires partial rehabilitation to comply with existing federal guidelines and standards for curation of archaeological documentation. Records should be removed from current acidic folders and placed in archival-quality containers. Duplicate copies should be produced and stored at a separate, secure location.

Human Skeletal Remains: None

Status of Curation Funding: Curation of archaeological collections is financed as overhead in the state budget.

Dates of Visits: February 16–17, 1995

Point of Contact: Ronald Orr

MHT is the state archaeology information center and state repository for archaeological collections. The information center is located in Crownsville, in the People's Resource Center building. The collections repository is currently located in a building in the state hospital complex in Catonsville, a suburb of Baltimore. Plans call for the 1996–1997 completion of a new curation facility at the Jefferson Patterson Park and Museum located in St. Leonard, Maryland. A total of 13 ft^3 of artifacts from military archaeological collections is housed at MHT (Table 23).

Assessment of Storage Location 1: Garrett Building

The Garrett building was constructed in the 1930s and was originally used as a psychiatric hospital (Figure 74). The entire building encompasses approximately 18,000 ft^2 of floor space in three floors and two wings. MHT is not the sole occupant of the building. Within MHT, there are multiple activity areas, including artifact holding, washing, processing, and temporary storage, supplies storage, records study, records storage, and offices. There are two collections storage areas, one on the east end and the other on the west end of the building.

Table 23. Summary of Military Collections, by Installation, at MHT

Installation (Subinstallation)	Volume of Artifacts (ft^3)
Aberdeen	1.2
Adelphi Labs	
HDL	1.2
Fort Meade	5.8
Little Creek NAB	
Bloodsworth Island NR	4.8
Total	13.0

Structural Adequacy

The repository has a concrete foundation, with exterior walls composed of stone with a brick interior. The roof is composed of slate tile, which was scheduled to be replaced approximately one year from the date of the assessment team's visit. The building is solid, with no cracks or leaks. There have been several renovations and upgrades, including radiator upgrades, replacement of tile areas, and covering of piping. There are multiple exterior windows and doors.

The floors in the collections storage areas are concrete, covered with tile (Figure 75). Interior walls are brick. The ceilings are concrete. There are multiple windows, but only one door into each wing. Window frames are steel, but there is evidence of some air leakage. The exterior doors are metal panel, and there are multiple interior wood-panel doors leading to a variety of small storage spaces and to the rest rooms. MHT's interior floor space measures approximately 1100 ft^2 in the east wing and approximately 900 ft^2 in the west wing. Both storage areas are filled an estimated 80 percent with archaeological collections.

Environmental Controls

The Garrett building has radiator heat and central air-conditioning equipped with dust filters. Radiator regulators in the collections storage areas allow for heating control. Humidity is monitored by hygrothermographs in the laboratories and by sling psychrometer in the collections storage areas. At the time of the assessment, dehumidifiers were not present, but were soon to be acquired. MHT has an agreement with the Spring Grove Hospital Center for basic maintenance. Different cleaning tasks are conducted weekly and monthly by janitorial staff. Windows in the collections storage areas were not shaded at the time of the assessment, but shades with UV protection were soon to be added.

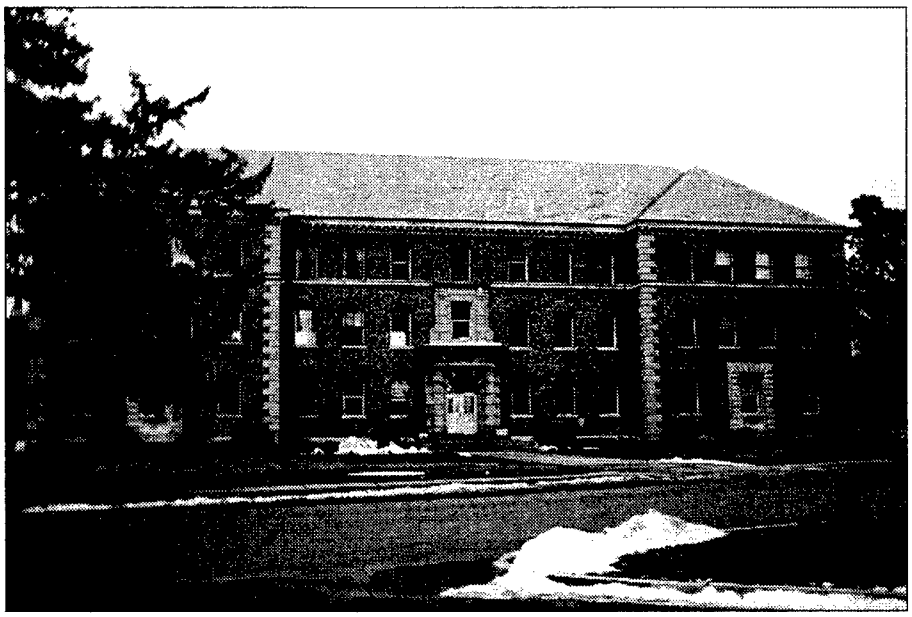

Figure 74. View of Storage Location 1, the Garrett building, at MHT.

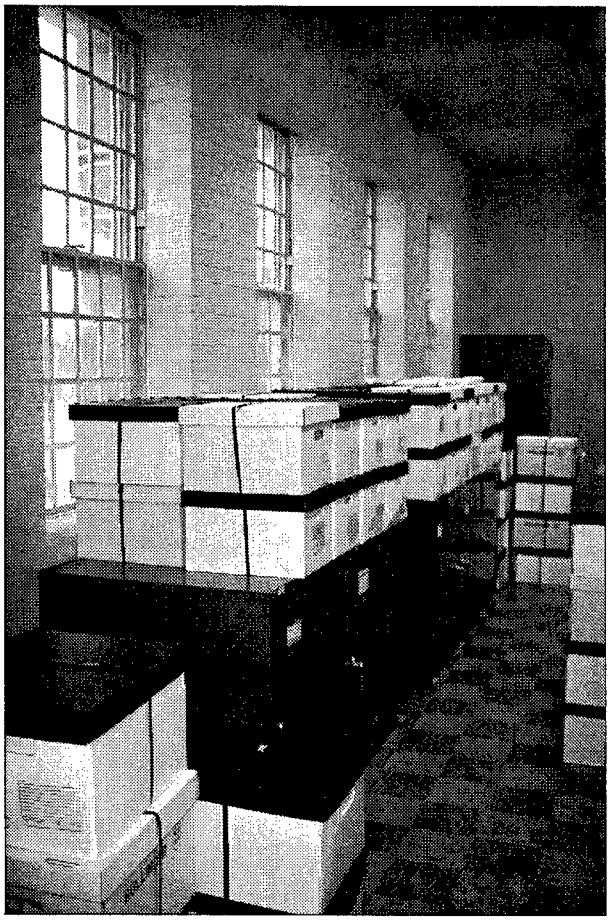

Figure 75. This collections storage area in Storage Location 1 is used for select artifact collections and overflow storage of collections.

Lighting is from fluorescent tubes without UV filters.

Pest Management

There is no integrated pest-management system. At the time of the assessment, MHT had recently acquired the Garrett building, and no program had been developed. There were no signs of pest infestations observed by the assessment team.

Security

Security measures for the repository consist of key locks, dead bolt locks, window locks, controlled access by staff, and regular hospital campus patrols by a private security company. Windows in the building open only slightly, a measure used to keep patients from jumping out when the building was a psychiatric hospital. The collections storage areas are secured by dead bolt locks on the doors into the repository. Special artifacts are kept in locked cases.

Fire Detection and Suppression

Fire-detection measures consist of smoke detectors and manual fire alarms. Fire-suppression systems consist of a sprinkler system and fire extinguishers located throughout the building. The west-wing collections storage area is equipped with a fire extinguisher, but the east-wing collections storage area is not. The manual fire alarms are linked to a 24-hour staffed operating station. This is an intermediate link between the alarms and the fire department because of the building's original use as a mental hospital campus.

Assessment of Storage Location 2: People's Resource Center

The People's Resource Center (PRC) is a large office building constructed in 1991 (Figure 76). The total floor space of PRC exceeds 128,500 ft^2. There are four floors above grade and one floor below grade. Activity areas within the archaeology sections include a receiving/loading dock, artifact processing lab, records study room, photographic storage room, and offices. Records and photographic materials are stored in the records storage and study library in the archaeology section of PRC.

Structural Adequacy

The foundation is concrete, with concrete-block exterior walls on the lower levels and brick exterior walls for the majority of the structure. The roof is composed of built-up asphalt. There have been multiple renovations of the interior walls. There are multiple exterior windows and doors.

The records storage area measures over 500 ft^2, and contains the records storage, records

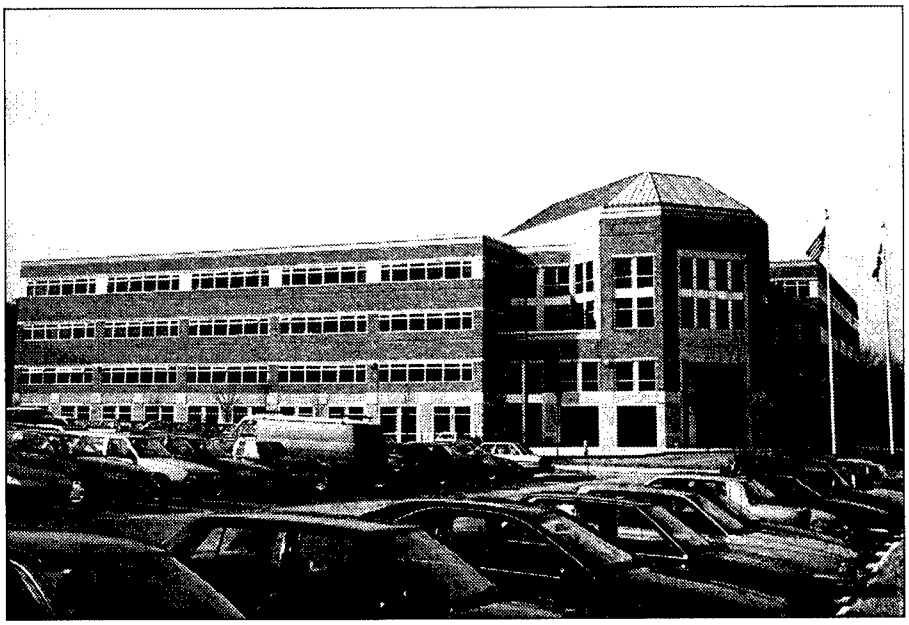

Figure 76. Exterior view of Storage Location 2, the PRC, at MHT.

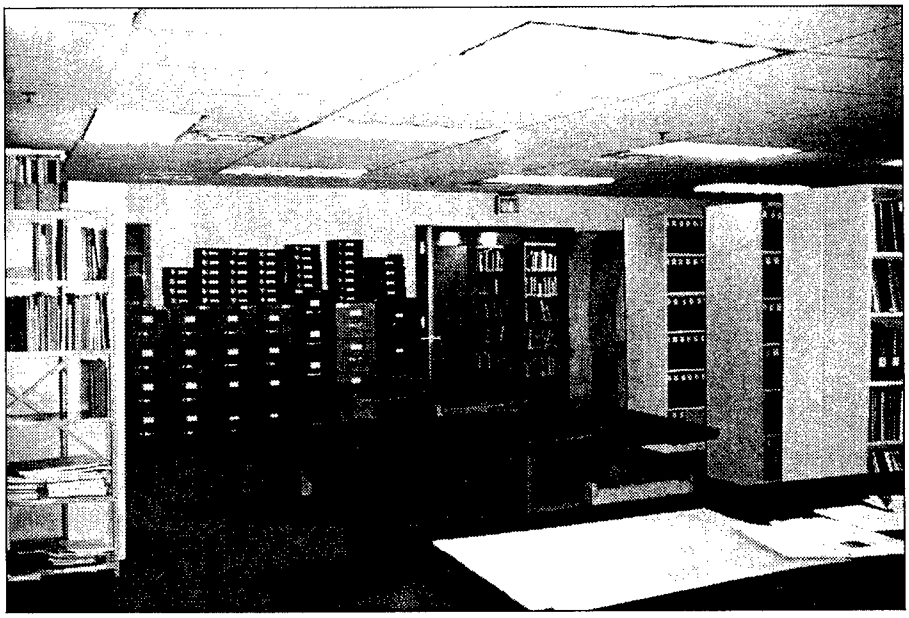

Figure 77. View of the records storage room and study area in Storage Location 2.

study (Figure 77), and library areas. The Maryland site files are located in this area. The floor is concrete overlain with carpet. Interior walls are wallboard/Sheetrock, and the ceiling has suspended acoustical tiles. There are no exterior windows; one wood-panel interior door and two wood-panel doors lead to interior hallways. The area is filled to approximately 80 percent with archaeological documentation and associated source books.

Environmental Controls

Storage Location 2 has central heat and air-conditioning equipped with dust filters. Humidity is neither monitored nor controlled. Maintenance and cleaning are performed daily by janitorial staff. Lighting is provided by fluorescent bulbs without UV filters.

Pest Management

There is no integrated pest-management system. Pest management consists of spraying by a professional pest management company approximately three times per year.

Security

Security measures for PRC consist of a 24-hour in-house guard, key locks, dead bolt locks, and window locks. The records storage area is secured by key locks on the exterior doors.

Fire Detection and Suppression

Smoke detectors and manual fire alarms are used for fire detection. Fire-suppression equipment consists of a sprinkler system and fire extinguishers located throughout the building; there are, however, no fire extinguishers in the records storage area.

Assessment of Both Storage Locations

Artifact Storage

Storage Units

Artifact collections are stored on multiple sets of baked-enamel metal uprights and shelves. Shelves are covered with plastic. Units measure 6.3 × 3.1 × 6.9 feet (w × d × h). Military collections total 13 ft^3, and are present for a number of installations (see Table 23). Table 24 outlines the types of material classes present in the military collections at MHT.

Table 24. Summary, by Volume, of Material Classes Present in Military Collections at MHT

Material Class	%
Prehistoric	
Lithics	33
Ceramics	12
Faunal remains	3
Shell	3
Historical-period	
Metal	16
Ceramics	14
Glass	11
Brick	6
Faunal remains	1
Shell	1
Total	100

Primary Containers

Artifact collections are stored in 11 boxes, encompassing 13 ft^3. Two boxes are acid-free-cardboard boxes with telescoping lids, measuring 1.3 ft^3 each. The remaining nine primary containers are acidic-cardboard boxes with telescoping lids, in volumes ranging from 0.9 ft^3 to 1.2 ft^3. Labels for all primary containers consist of a paper label placed inside an adhesive plastic jacket that is stuck to the container. The paper label is a computer printout of the inclusive site numbers.

Secondary Containers

Secondary containers for the artifact collections include zip-lock plastic bags, thin plastic bags without ties, and paper bags (Table 25). Labels are generally written directly in marker, with information consisting solely of the site number. Acidic-paper tags have been inserted in some secondary containers. Information again consists only of the site number.

Laboratory Processing and Labeling

The majority (75%) of the artifacts have been cleaned, but only half have been labeled. Labels consist of site number, and an occasional catalog

Table 25. Summary, by Volume, of Secondary Containers Used for Military Collections at MHT

Container Type	%
Zip-lock plastic bags	44
Thin plastic bags with ties	44
Paper bags	12
Total	100

number or lot number, written directly in ink on the artifact or on white correction fluid. Most (80%) of the artifacts are sorted by material class.

Human Skeletal Remains

MHT is not currently curating any human skeletal remains recovered from military installations in the project area.

Records Storage

Documentation associated with archaeological projects is stored in two separate storage locations: the Garrett building and PRC. There is 0.25 linear inch of records housed at Storage Location 1, the Garrett building, and 0.50 linear inch of photographic documentation stored at Storage Location 2, PRC.

Paper Records

The 0.25 linear inch of paper records associated with Fort Meade housed at Storage Location 1 is stored in the east wing, in a small room within the collections storage area devoted to records storage. Storage units for the primary containers consist of the same type of open baked-enamel metal uprights and shelves on which the artifacts are stored. The primary container is an acid-free 1-ft^3 plastic box with a telescoping lid. The box is labeled with an acid-free-paper tag placed in a plastic jacket stuck to the container. Information is recorded in marker and includes site name, project name, site numbers, accession numbers, county, and contents. Arrangement of records within the primary container is generally by site number or accession number, and sometimes by box control number. The secondary container is an acidic manila envelope, labeled directly in marker with site numbers and installation.

Photographic Records

Photographic records of military archaeological projects housed with MHT are only stored at Storage Location 2. There is 0.50 linear inch of photographic records associated with Fort Meade stored in standard letter-sized file cabinets. Cabinets are labeled with paper tags, according to material type (slides), and county and site number designation. Secondary containers for materials consist of a manila folder and non-archival slide holders. The manila folder has the site number typed on an adhesive label. Slide holders are unlabeled, but individual slides are directly labeled with site number or name.

Collections-Management Standards

Registration Procedures

Accession Files

Archaeological materials are accessioned into MHT within one week of arrival. Accession numbers are arranged according to collection, year, and sequential number.

Location Identification

The location of artifacts within the repository is identified in a directory.

Cross-Indexed Files

Files are cross-indexed by accession number, catalog number, and lot number.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used for site-record administration.

Computerized Database Management

DBXL, a state program derived from dBase, is used for database management. Backups are stored on disk. There is no local network, but one is planned. Copies of files are stored at the Garrett building and at PRC.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no minimum standards for acceptance of collections.

Curation Policy

There are written standards for the packaging, processing, labeling, and storage of collections.

Records-Management Policy

There is a written records-management policy addressing the guidelines and standards for the curation of documentation.

Field-Curation Procedures

There are written guidelines for field-curation that address field conservation and recommendations for manuals to be used.

Loan Policy

There are written loan procedures that use standard loan forms.

Deaccessioning Policy

There is a written deaccessioning policy that uses a standard form.

Inventory Policy

There is no written inventory policy.

Latest Collection Inventory

Collections are inventoried when they arrive from the field, but a box-by-box inventory of the collections in storage has not occurred since the 1980s.

Curation Personnel

Ronald Orr is the Archaeological Research Services Manager and curator for the archaeological collections. Once every week, Mr. Orr has the help of four volunteers.

Curation Financing

Curation is financed as overhead in the state budget.

Access to Collections

Access to the collections is limited to MHT archaeology section staff and to researchers by permission. A written letter of intent is necessary, and access to the collections is supervised.

Future Plans

Future plans include the construction of the Maryland Archaeological Conservation Facility at Jefferson Patterson Park and Museum, to be completed during 1996–1997. Mr. Orr also plans to use the help of volunteers to upgrade the collections as quickly as possible.

Comments

1. Both storage locations have central heating and air-conditioning, but neither have humidity controls. Storage Location 1 has humidity monitoring devices, and plans to acquire dehumidifiers.

2. Neither storage location has an integrated pest-management system.

3. Neither storage location has an intrusion detection and deterrent system, but Storage Location 2 has a 24-hour in-house guard.

4. Both storage locations have sprinkler systems for fire suppression.

5. Most primary containers are acid-free-cardboard boxes, but there are a number of acidic-cardboard boxes as well. Secondary containers consist mainly of zip-lock plastic bags and paper bags. Labels are generally written directly on the containers.

Recommendations

1. Begin an integrated pest-management system that includes both monitoring and control on a regular basis.

2. Rebox and rebag artifacts into acid-free-cardboard boxes and archival-quality polyethylene bags. Insert acid-free-paper labels into the bags.

27

Mid-Atlantic Archaeological Research

Williamsburg, Virginia

Repository Summary

Volume of Artifact Collections: None

Linear Feet of Records: 6.2 linear feet (74.75 linear inches)

Compliance Status: Associated documentation requires complete rehabilitation to comply with existing federal guidelines and standards for archival preservation. Records should be removed from current acidic folders and placed in archival-quality containers. Duplicate copies of documentation should be produced and stored at a separate, secure location.

Human Skeletal Remains: None

Status of Curation Funding: Curation of collections is accomplished by writing funds into the consulting contracts. The staff feels that funding is inadequate, even for the firm's temporary curation goals.

Date of Visit: July 22, 1994

Point of Contact: Jerome Traver

MAAR is a private consulting firm. The firm is not currently housing any artifacts from military installations, but is holding 6.2 linear feet (74.75 linear inches) of documentation from Fort Belvoir, Fort Eustis, Fort A. P. Hill, and Fort Lee. The firm does not view itself as a permanent curation facility, but merely a temporary holding space for artifacts awaiting acceptance to the state repository. However, original project documentation is generally kept with the firm for a long period of time. General repository and collections information were collected on a project for the Atlantic Navy (see Table 1).

Assessment

MAAR, Williamsburg (Figure 78), is a branch office of the same firm based in Newark, Delaware. The firm's office in Williamsburg serves as the repository and project direction center for most work in Virginia. The MAAR facility contains approximately 1,200 ft^2 of floor space, which includes areas for a variety activities. In addition to offices, there are areas for artifact holding, processing, and temporary storage; photographic storage; records storage; and field equipment and supplies storage.

Structural Adequacy

The single-floor building is approximately 10 years old and was originally used as offices.

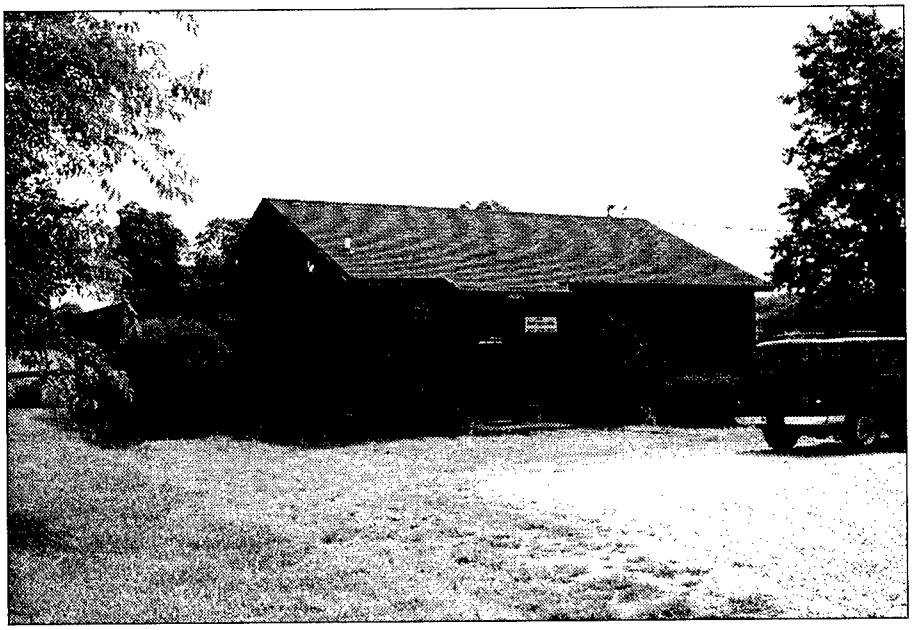

Figure 78. Exterior view of MAAR.

It is composed of a concrete foundation and wood siding, with Sheetrock interior walls. The roof is original asphalt shingle. The building appears to be structurally solid. There are six windows in the building, all having blinds and wood frames. The frames and windows appear to be free of cracks and leaks. The most recent renovation is a 5-year-old interior wall that was constructed to separate two laboratory areas in the south section of the facility. Utilities are original to the facility.

The collections storage area has a concrete foundation covered with carpet. The ceiling in the collections storage area has suspended acoustical tiles. There is one east-facing window. A single set of metal-panel double doors leads outside, and one east-facing wood-panel door opens into the repository. A wide gap between the metal double doors is both a security risk and an environmental-control issue. The collections storage area is filled to approximately 90 percent capacity.

Environmental Controls

The MAAR facility, including the collections storage area, uses a heat pump for central air-conditioning and heating. Within the collections storage area, temperature and humidity are not monitored or controlled. The heat pump regulates humidity, although it does not monitor it. The air system is equipped with dust filters. Fluorescent tubes are not equipped with UV shields. Maintenance for the facility is conducted as needed by the curatorial staff.

Pest Management

There is no integrated pest-management system in place for MAAR. There have been pest infestations in the past, as the building sometimes becomes home to mice in the winter. As-needed, bait traps are used to control rodents and spray is used to control insects.

Security

The MAAR facility lacks adequate security measures. There is no alarm system, nor any type of security patrol. However, there are key locks on the two exterior doors and simple window locks on all windows. There is also an outside light. Staff members' access to all records and collections is tightly controlled by the branch manager, Mr. Traver. Only the manager, two lab technicians, and varying small numbers of field technicians have access to the building.

Table 26. Summary of Documentation (in Linear Inches), by Installation, at MAAR

Installation	Type of Documentation				
	Paper	Reports	Photographs	Maps	Total
Fort Belvoir	17.50	3.00	2.00	2.25	24.75
Fort Eustis	24.00	2.00	1.00	2.00	29.00
Fort A. P. Hill	9.00	—	0.75	—	9.75
Fort Lee	9.50	—	0.75	1.00	11.25
Total	60.00	5.00	4.50	5.25	74.75

Fire Detection and Suppression

There are no fire-detection or -suppression systems in the MAAR facility.

Artifact Storage

MAAR does not curate any artifacts from military collections.

Human Skeletal Remains

There are no human skeletal remains from military collections curated at MAAR.

Records Storage

MAAR stores approximately 6.2 linear feet (74.75 linear inches) of documentation (Table 26). Documentation from archaeological projects on military installations is stored in the collections storage room and in the offices.

Paper Records

Sixty linear inches of associated documentation generated from archaeological work at military installations is stored in three separate file cabinets (Figure 79), a map flat cabinet, and in binders on shelves. One file cabinet is a letter-sized metal file drawer that is located in a metal desk, and measures 13 × 27 × 12 inches (w × d × h). Other file cabinets housing documentation measure 15 × 27 × 28 inches (w × d × h), and 15 × 28 × 28 inches (w × d × h).

The other documentation storage containers consist of a metal map cabinet and plastic three-ring binders. The map flat measures 52 × 41 × 16 inches (w × d × h), and has multiple drawers for storage. The vinyl three-ring binders are stored on a set of wood shelves measuring 28 × 16 × 71 inches (w × d × h). Eight plastic binders contain military installation paper records. Records are organized by project, with label information typed on an adhesive label that is

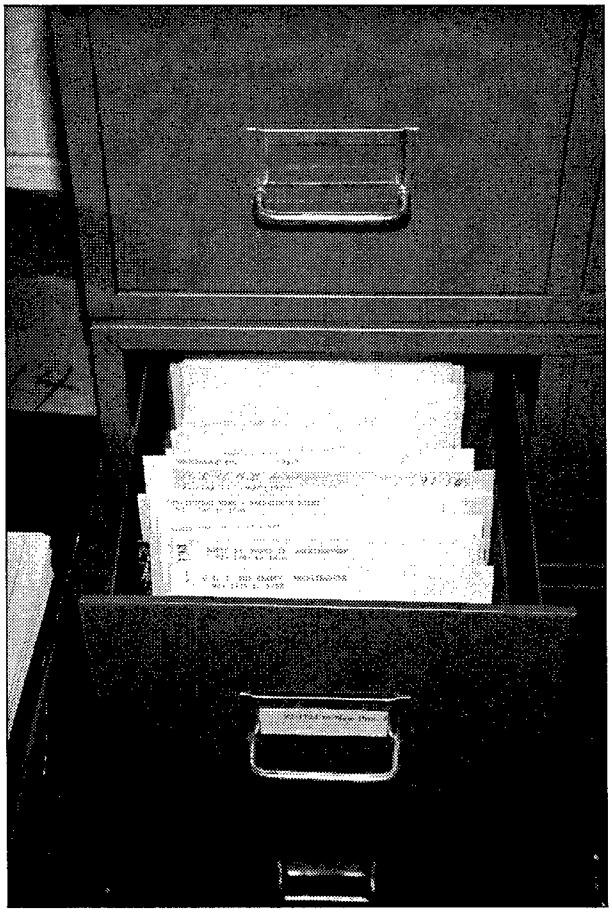

Figure 79. Associated documentation is filed in metal file cabinets at MAAR.

attached to the binder. Label information consists of installation and MAAR code.

Secondary containers in the file drawers consist of green, acidic, hanging file folders. These have nonarchival plastic tag holders with a nonarchival paper tag with typed label information. Label information usually includes a MAAR code and the type of documents contained therein. The MAAR code is simply a number assigned to projects; for example, one project on Fort Eustis is MAAR code V28. The files are organized by project and MAAR code.

Paper records are generally in good condition, although contaminated by many staples and paper clips. These documents are the originals, although MAAR has sent copies on acid-free paper to the state repositories with the artifacts, as per state requirements.

Photographic Records

There are 4.5 linear inches of photographic records from military installations stored at MAAR (see Table 26), including black-and-white prints, negatives, and contact sheets. Records are stored in green, acidic, hanging file folders within the file cabinets and in plastic binders. The photographic materials are directly labeled with the MAAR code, and are organized in the file folders by MAAR code.

Maps and Oversized Documents

Five and one-quarter linear inches of maps from military installations are stored at MAAR (see Table 26). One-quarter linear inch of the maps is stored folded in a file cabinet with other paper records. Five linear inches of maps and drawings are filed in the metal map cabinet.

Project Reports

Five linear inches of reports from military installations are stored in acidic hanging file folders in two file cabinets. These are organized by the MAAR code, which is typed on nonarchival paper and placed within a nonarchival clear plastic tag. Final reports that MAAR has produced are stored in a report library on metal bookshelves (Figure 80). The library collections are organized by state.

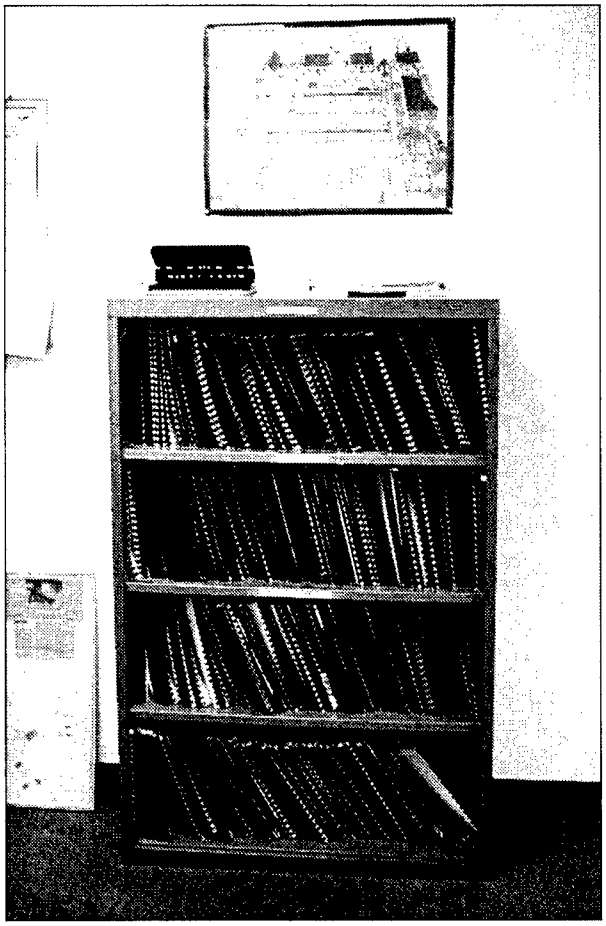

Figure 80. Metal shelving units are used to store the spiral-bound reports at MAAR.

Collections-Management Standards

Registration Procedures

Accession Files

MAAR does not accession material, but there are cataloging procedures for the artifacts.

Location Identification

The location of artifacts within the repository is not specified on any document.

Cross-Indexed Files

There is no cross-indexing of files. Files are organized by MAAR code and project/installation.

Published Guide to Collections

Except for the project reports, a published guide to the collections has not been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used. Materials from sites are organized by project.

Computerized Database Management

Collections are partially managed with the use of the WordPerfect word-processing package. Backup copies are made as needed, and stored on disk. One backup copy is stored in the Delaware office. Hard copies are also used as backups.

Written Policies and Procedures

Minimum Standards for Acceptance

MAAR only accepts collections from its own work and not from outside researchers.

Curation Policy

There is no standard comprehensive plan for curation. MAAR temporarily curates artifacts and documents from its own projects, and then sends the artifacts with copies of documentation to the state repository. MAAR then curates the original documentation in perpetuity.

Records-Management Policy

There are no written policies for the curation of documentation.

Field-Curation Procedures

There are no field-curation guidelines.

Loan Policy

There is no written loan policy, but MAAR occasionally loans documents to institutions. Artifacts and at least one copy of the documentation are never loaned, because they belong to the contracting agency.

Deaccessioning Policy

There is no written deaccessioning policy.

Inventory Policy

There is no written inventory policy.

Latest Collection Inventory

Artifacts are inventoried before being sent to the state repository.

Curation Personnel

There is no full-time curator at MAAR. Jerome Traver, the branch manager, oversees all archaeological work, including artifact processing, cataloging and temporary curation. The firm employs two lab technicians and a number of field technicians.

Curation Financing

MAAR does not curate in perpetuity, but funds for temporary curation are acquired through the firm's contracts.

Access to Collections

Access to collections is limited to Mr. Traver and the staff of lab technicians and field technicians. Generally, researchers can only access the collections once they have been received at the state repositories.

Future Plans

MAAR has plans to acquire more file cabinets and to place inactive files in acid-free boxes.

Comments

1. Original documentation is stored in a number of different storage units.

2. Documentation from the same project/installation is located in several different file cabinets or binders.

3. Security at MAAR is inadequate. There are no locks on the file cabinets and there is no alarm system wired into the police department. Windows and wood-panel doors provide little security for the documentation.

4. There is no fire-detection or -suppression system. The facility is without fire extinguishers, smoke alarms, or sprinkler systems.

5. There is no integrated pest-management system. Pest problems are addressed as needed.

6. Humidity is not monitored or controlled in the collections storage area.

Recommendations

1. Replace secondary containers for documentation with acid-free folders and store them in acid-free-cardboard boxes. Copy documentation onto acid-free paper. Remove metal contaminants such as staples or paper clips. Photographs should be stored in archival-quality polyethylene photo sleeves or in acid-free envelopes. Small-scale maps can be stored with the paper records, but large-scale maps should be placed unfolded in a map flat.

2. Consolidate documentation relating to the same project and installation. Duplicate documentation onto acid-free paper and store off-site according to federal guidelines and standards for archival preservation.

3. Install locks on file cabinets and provide security for the repository, including an alarm system wired into the police department, dead bolt locks on all doors, and security drive-bys.

4. All relevant file cabinets should be put in one room with no exterior windows and doors. A solution might include sealing the windows in the facility's main office, installing a dead bolt lock on the door, and consolidating the file cabinets in that room.

5. Install fire extinguishers and smoke detectors. If possible, a sprinkler system and a fire alarm that is wired into the local fire department should be installed.

6. Begin an integrated pest-management system that includes monitoring and control on a regular basis.

7. Install an HVAC system. If this is not possible, monitor humidity with a sling psychrometer or hygrothermograph and install a commercial dehumidifier.

28

John Milner and Associates

Alexandria, Virginia

Repository Summary

Volume of Artifact Collections: 2.9 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for collections.

Linear Feet of Records: 0.4 linear foot (5 linear inches)

Compliance Status: All associated documentation is generally in very good condition. Original documentation requires partial rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: A standard curation fee is charged to clients in the terms of agreement for the project.

Date of Visit: November 9, 1995

Points of Contact: Charles Cheek and Dana Heck

Milner is a private contracting firm which has performed archaeological reconnaissance work on Fort Belvoir.

Assessment

Milner is located on the fifth floor of the Halifax office building (Figure 81). The 1,400-ft^2 office space has an artifact holding and washing area, a processing lab, temporary artifact storage area, and offices. Artifact collections recovered from Fort Belvoir are stored in the hallway, Collections Storage Area 1. Records are stored in boxes beneath a table in the collections manager's office, Collections Storage Area 2.

Structural Adequacy

The building is approximately 15 years old with a concrete foundation and brick exterior walls, and a total of five floors above grade. The flat "membrane" roof has had leaks in the past, but they have all been fixed. There is no evidence of water damage to either the building or the collections. Internal walls have changed numerous times to accommodate changing office spaces. Windows are on all sides of the building and most of them have built-in blinds. The windows' steel frames have never been replaced and personnel have never experienced any drafts or water leaks.

Environmental Controls

The utility systems are all original to the building, with no significant improvements or replacements. An electric heat pump is used to heat the building. The entire building has heat and air-conditioning; the lab area has a dehumidifier

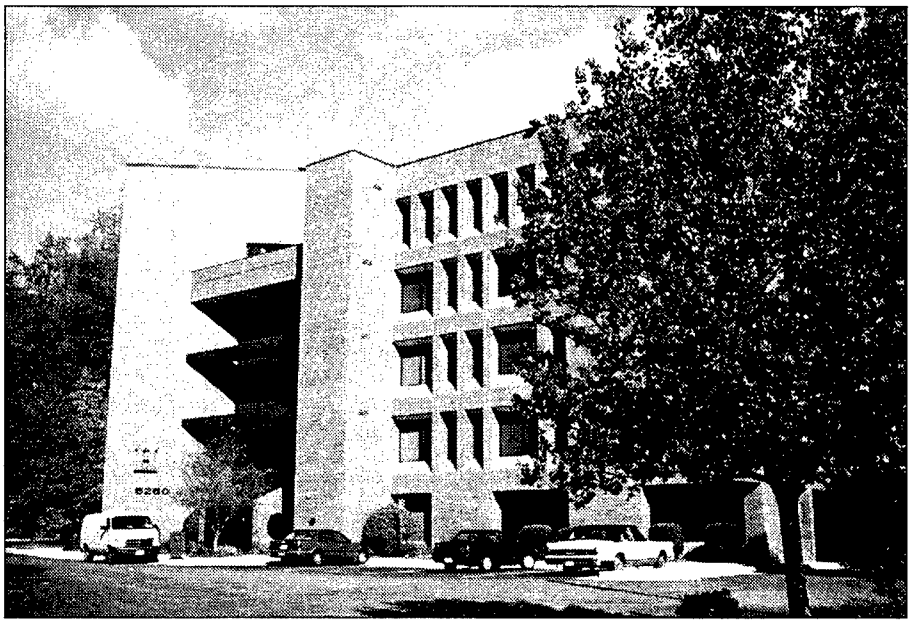

Figure 81. View of the Halifax building where Milner rents office space.

and humidity gauge. No dust filters are present on the environmental controls. Hazardous chemicals, including B12, are used in the lab. No ventilation methods are employed; fans are used when necessary. The building is regularly maintained by a cleaning service that employs a full-time maintenance person.

Pest Management

Precautions are taken against insects and rodents as-needed; however, there has never been a problem with pests except for some ants near the recycling area.

Security

The only security measures used for the building are key locks on the exterior and interior office doors. There is no evidence of unauthorized access through any of the windows or doors, nor have there been any episodes of unauthorized entry in the building. The collections located here are not considered to have a high market value.

Fire Detection and Suppression

Manual fire alarms and fire extinguishers are located throughout the building. A sprinkler system is also present. There are no fire extinguishers in either of the collections storage areas.

Artifact Storage

Storage Units

Archaeological collections are stored in boxes stacked three or four high along a wall in the hallway of Collections Storage Area 1 (Figure 82). Table 27 outlines the percentages of material classes present in the Fort Belvoir collections.

Primary Containers

Approximately 3 ft^3 of artifacts recovered from Fort Belvoir are stored in acid-free-cardboard boxes (Figure 83). Labels on the boxes consist of slips of paper inserted in adhesive plastic holders, with information written in marker. A small amount of artifacts is stored in a loose, large zip-lock plastic bag. The bag is labeled directly in marker and the artifacts are awaiting processing.

Secondary Containers

Secondary containers for the artifact collections are zip-lock plastic bags labeled directly in black marker.

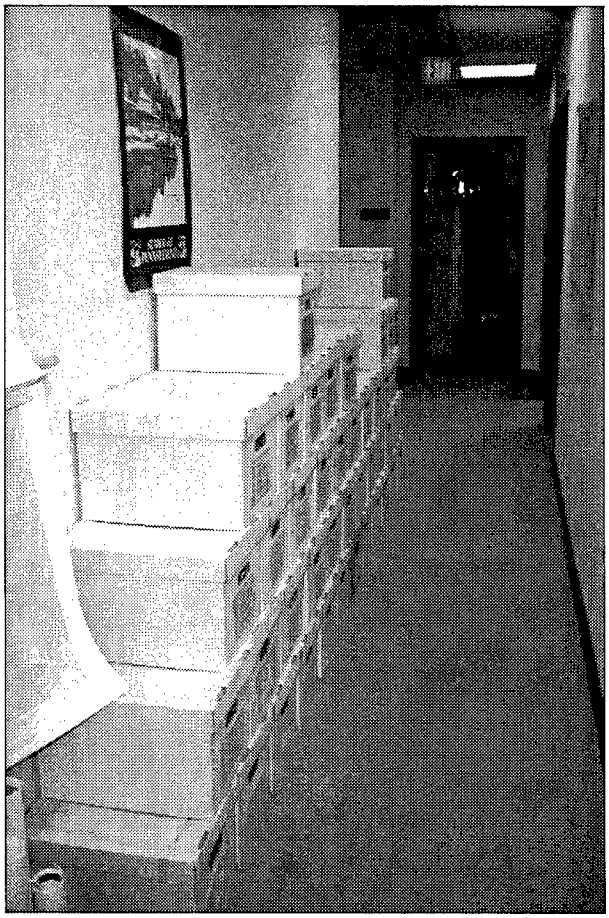

Figure 82. Boxed artifact collections are stacked along the wall in the hallway at Milner.

Laboratory Processing and Labeling

Most (90%) of the artifacts have been cleaned and 80 percent are labeled. Approximately 10 percent of the artifacts are sorted by material class. Index cards with additional information have been inserted into many of the secondary containers.

Human Skeletal Remains

No human skeletal remains recovered from Fort Belvoir are curated by Milner.

Records Storage

Approximately 5 linear inches of associated documentation and reports accompany the collections from Fort Belvoir. All documentation is stored in one of four Hollinger boxes underneath a table in the collections manager's office in Collections Storage Area 2 (Figure 84). Each box holds records from a particular state.

Table 27. Summary, by Volume, of Material Classes Present in Fort Belvoir Collections at Milner

Material Class	%
Prehistoric	
Lithics	59
Ceramics	1
Historical-period	
Ceramics	23
Metal	17
Total	100

Paper Records

Paper records for Fort Belvoir total 4.5 linear inches. The original field notes, which include survey and excavation documentation, are kept in a three-ring binder. Copies of the original documentation are generally kept in envelopes made of a durable spun-bonded olefin. The envelopes are sealed with a reuseable adhesive tab. All records have been duplicated on acid-free paper, filed in acid-free folders, and stored in the aforementioned envelopes.

Photographic Records

All negatives and slides are labeled and enclosed in archival-quality plastic sleeves and stored in acid-free folders. The photographic records are stored with the rest of the project files in the envelopes and Hollinger boxes described above. Photographic records for Fort Belvoir total 0.5 linear inch.

Collections-Management Standards

Milner does not view itself as a permanent curation facility and does not have many of the written guidelines and procedures recommended.

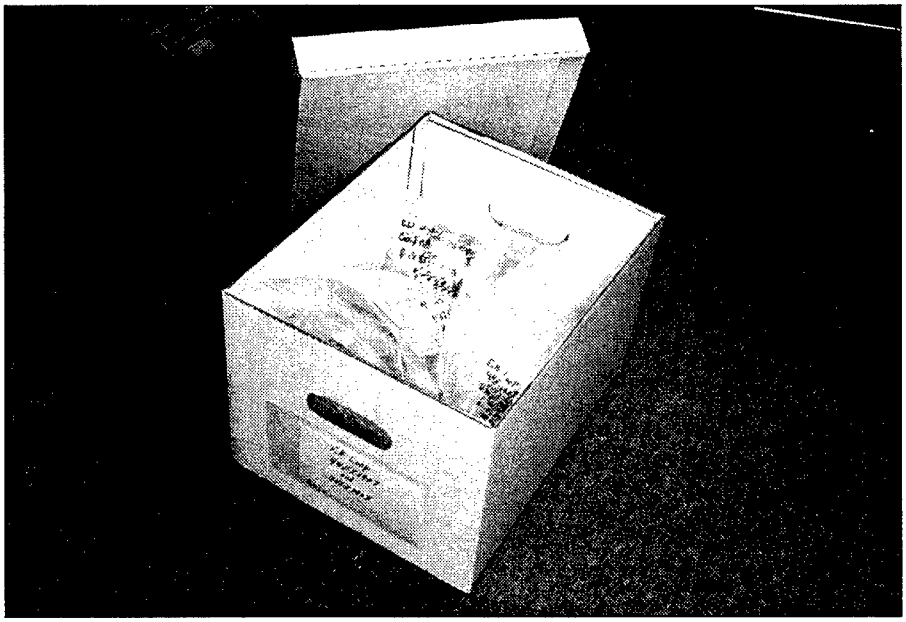

Figure 83. Folded, acid-free boxes are used as primary containers for the Fort Belvoir collection at Milner.

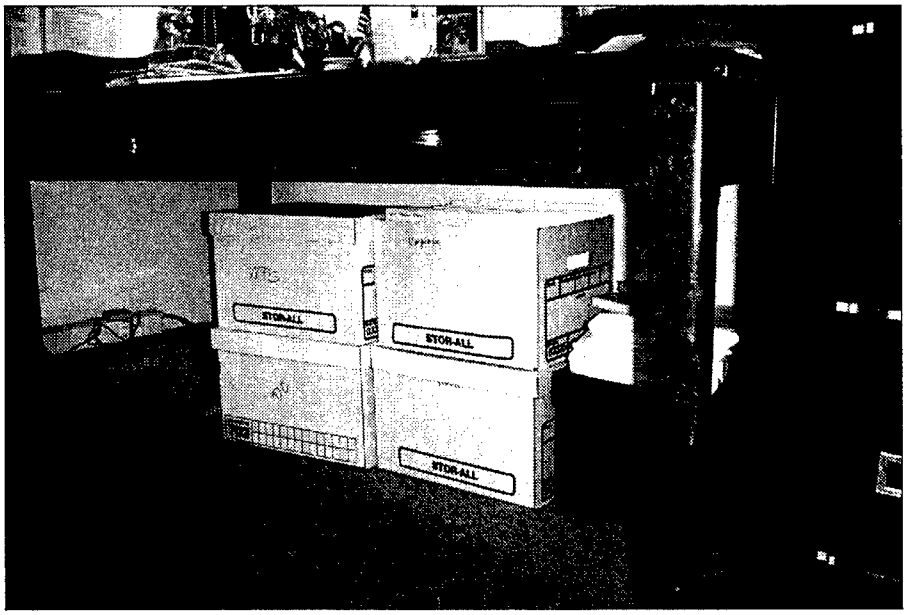

Figure 84. Associated documentation is filed by state in cardboard boxes. The boxes are stored under a table in an office.

Registration Procedures

Accession Files

Accession files are kept for the collections; however the process varies by each client's specifications.

Location Identification

The location of the collection is identified in the accession file.

Cross-Indexed Files

Files are cross-indexed by state and project.

Published Guide to Collections

Except for the project reports, a published guide to the collections has never been produced.

Site-Record Administration

Milner uses the Smithsonian River Basin Survey trinomial site-numbering system.

Computerized Database Management

Computerized database-management programs are used.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards exist, but only collections associated with Milner projects are stored there temporarily.

Curation Policy

State guidelines for the processing and curation of collections and records are followed.

Records Management Policy

Associated archaeological records are filed by state and project. An access policy does not exist; however, personnel with the firm are the primary users. Duplicate copies of the records have been made on acid-free paper.

Field-Curation Procedures

No formal field-curation guidelines have been written.

Loan Policy

Collections have never been loaned.

Deaccessioning Policy

A deaccessioning policy has not been established.

Inventory Policy

An inventory policy has not been established.

Latest Collection Inventory

Each collection is inventoried upon completion of the project.

Curation Personnel

Milner does not have a full-time curator for the archaeological collections because they do not consider themselves a permanent curation facility.

Curation Financing

Clients are charged for the supplies and time required to process and curate the collections.

Access to Collections

Staff members have access to the collections, but a formal policy regarding access to the collections by researchers does not exist. Interested researchers are granted access upon request.

Future Plans

The lab manager would like to see the boxes of collections moved from the hallway and into a specific collections storage room.

Comments

1. There is no integrated pest-management policy.

2. Security systems for the building and offices cannot adequately protect the artifact collections stored in the hallway.

3. There are no fire extinguishers in the collections storage areas.

4. Archival-quality products are used in the processing and curation of the collections.

Recommendations

1. Develop a pest-management plan which includes both regular monitoring and control.

2. Adequate security measures must be implemented to protect the integrity of the artifact and records collections, including intrusion alarms for the building and the specific offices housing the collections.

3. Install a dry-chemical fire extinguisher in or near all three of the collections storage areas.

29

SouthArc

Gainesville, Florida

Repository Summary

Volume of Artifact Collections: 1 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Linear Feet of Records: None

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are financed through SouthArc overhead, clients are also occasionally charged for time and supplies.

Date of Visit: January 26, 1996

Point of Contact: Lucy Wayne

SouthArc is a private contract archaeology firm with offices in the Spring Hill office park, in Gainesville. Other, unrelated offices are also located within this office building. The collections storage area is located in the basement of the office building. Approximately 1 ft^3 of historical-period archaeological material recovered from Fort Story is housed in this facility.

Assessment

The SouthArc offices occupy approximately 1,000 ft^2 of space (Figure 85). The basement collections storage area measures approximately 415 ft^2. The facility's utility systems are original, installed at the time of construction. The repository contains offices, a records study area, and an artifact holding area. An artifact washing area is located on the pavement outside. The collections storage area holds both artifacts and records from their many projects; however, no associated records from Fort Story are located here. The collections storage area is accessible through the outside basement door.

Structural Adequacy

The building is approximately 10 years old, with a slab concrete foundation and brick over frame exterior walls. The roof is composed of asbestos shingles; it is the original roof of the building. No cracks or leaks are present in the roof or foundation, and although tornadoes and hurricanes are common to the area, weather has not affected the building. The repository has one floor above grade and a basement under one half of the building that has an exposed wood-beam ceiling, concrete floor, and cinder block walls. Interior dividing walls in the collections storage area are made of plywood. The windows in the upper level offices have aluminum frames. One window pane has been replaced. No major renovations have been performed on the building since it was built.

Figure 85. View of the shared office building where the SouthArc offices are located. Note the partially below-grade level that is used by SouthArc for the temporary storage of artifact and unassociated records collections.

Environmental Controls

The offices have electric heat and air-conditioning; however, the basement collections storage area has no environmental controls at all. Dust filters are present on the environmental controls, but there are no humidity monitors or controls on the climate-control system. The building is regularly maintained by the landlord and SouthArc staff clean as needed. Lights in the offices and collections storage area do not have UV filters.

Pest Management

At present, there is no integrated pest-management program at SouthArc; however, the offices are sprayed three or four times a year. The collections storage area is fumigated and monitored only on an as-needed basis.

Security

Security measures consist of dead bolt locks on the doors and window locks on the windows. There are no intrusion alarm or motion detectors. Only SouthArc staff and the landlord have key access to the building. No past episodes of unauthorized entry through windows or doors have been documented.

Fire Detection and Suppression

There is no fire-detection system for the building. A dry-chemical fire extinguisher is the only method of fire suppression.

Artifact Storage

Storage Units

Archaeological collections are stored on untreated-wood shelving units measuring 1.3 × 1 × 0.8 feet (l × w × d) and running along the walls of the basement collections storage area (Figure 86). The area is filled to approximately 90 percent capacity. Refer to Table 28 for a breakdown of material classes present in Fort Story collections at SouthArc.

Primary Containers

Approximately 1 ft^3 of artifacts is stored in an acidic-cardboard box with a telescoping lid.

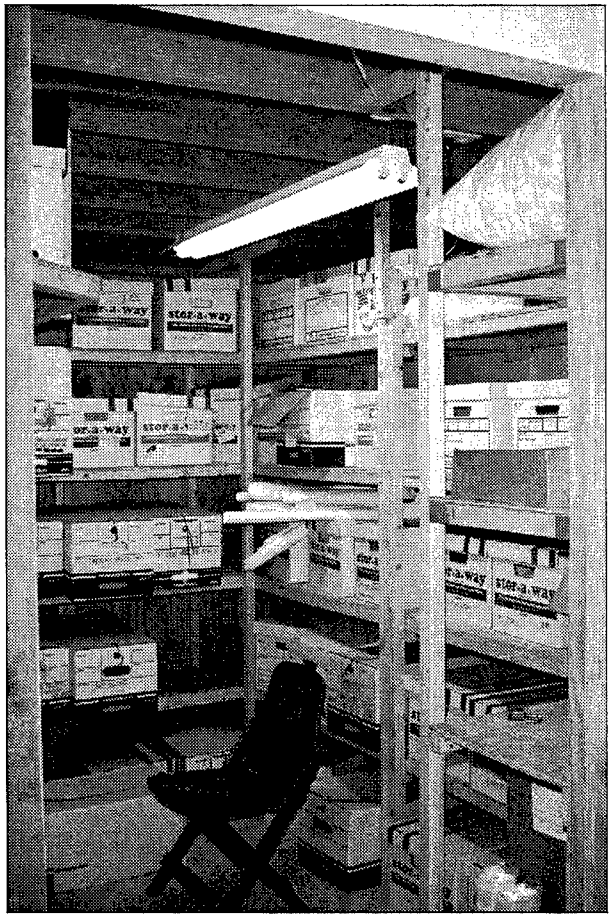

Figure 86. Collections are stored on unsealed-wood shelves in a padlocked room in the basement.

Labels are written directly on the box in marker and consist project names or locations.

Secondary Containers

Secondary containers for the artifact collections are zip-lock plastic bags with labels written directly on the bag in pen. Legibility on these labels varies.

Laboratory Processing and Labeling

Of all Fort Story collections, 90 percent have been cleaned and 90 percent have been sorted by material class. No artifacts have been labeled. Artifact processing takes place in the basement area adjacent to the collections storage area. All artifact washing is done on the pavement outside the building. There is no specific holding area for unwashed artifacts.

Table 28. Summary, by Volume, of Historical-Period Material Classes Present in Fort Story Collections at SouthArc

Material Class	%
Glass	50
Ceramics	25
Metal	20
Brick	5
Total	100

Human Skeletal Remains

No human skeletal remains recovered from Fort Story are curated at SouthArc.

Records Storage

SouthArc does not curate any documentation associated with archaeological work conducted at Fort Story.

Collections-Management Standards

Registration Procedures

Accession Files

All materials are accessioned upon arrival from the field.

Location Identification

The storage location for the collections is not identified in any document or finding aid.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

Except for the project reports, a published guide to the collections has never been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used for site administration. The NPS system is used for U.S. Forest Service projects.

Computer Database Management

A database is maintained weekly on disk and tape; no copies are stored off site.

Written Policies and Procedures

Minimum Standards for Acceptance

SouthArc is considered a temporary storage repository and stores only collections from their own projects.

Curation Policy

There is no written curation policy.

Records-Management Policy

There is no records-management policy.

Field-Curation Procedures

No formal field-curation guidelines have been written. When possible, state guidelines are followed.

Loan Policy

All collections loaned out for exhibits are documented.

Deaccessioning Policy

There is no written deaccessioning policy.

Inventory Policy

No inventory policy is established. Periodic inventories are made by project.

Curation Personnel

SouthArc has no full-time curator. The full-time staff consists of four people. Volunteers are relied upon heavily for all aspects of archaeological work. Lucy Wayne is responsible primarily for the processing and curation of collections. A permanent facility is being sought for collection storage.

Curation Financing

Financing for curation comes out of company overhead. The curator does not believe that funding is adequate. No plans have been made to upgrade the collections storage area.

Access to Collections

Only SouthArc staff members have access to collections.

Comments

1. There are no environmental controls in the basement collections storage area.

2. No UV filters are present on any of the light fixtures.

3. Fire-detection and -protection systems are inadequate in the collections storage area.

4. There is no integrated pest-management system.

5. Policies and procedures for the curation of artifacts and records have not been completely established.

6. Collections are stored in an acidic-cardboard box on untreated-wood shelves.

Recommendations

1. Install an HVAC system and humidity controls in the basement collections storage area.

2. Equip light fixtures with UV filters.

3. Fire-detection and -protection systems need to be installed in the collections storage area.

4. Written policies and practices for the curation of artifacts and records should be established.

5. Collections stored in acidic-cardboard boxes need to be moved to acid-free containers.

6. A full-time curation staff is needed to monitor the basement collections storage area.

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Thunderbird Archaeological Associates

Woodstock, Virginia

Repository Summary

Volume of Artifact Collections: 4.4 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 1.25 linear feet (15 linear inches)

Compliance Status: All associated documentation requires partial rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: A standard curation fee is charged to clients in the terms of agreement for the project. Any additional funds needed come from the overhead budget.

Date of Visit: December 13, 1995

Points of Contact: Kim Snyder and Bill Gardner

TAA is a private contracting firm which has performed archaeological reconnaissance work on land owned by Fort Belvoir and HDL. Approximately 4.4 ft^3 of artifact collections and 7.5 linear inches of associated documentation resulting from their work on Fort Belvoir and 7.5 linear inches of associated documentation resulting from their work on HDL have temporarily been stored in an upstairs room.

Assessment

TAA was originally located in a building in Front Royal, Virginia, where the firm also maintained their own museum. In 1986, however, they moved to their current location in a mid- to late-nineteenth-century house (Figure 87). No significant internal or external renovations have been made to the house since TAA moved in. Offices, collections storage areas, and artifact processing areas have been established in the rooms of the house. One of the bathrooms has been converted into a darkroom.

Structural Adequacy

The building has a stone foundation with a concrete basement floor. Exterior walls have wood siding and the roof has shingles that were replaced in 1994. The building has a total of four floors—three above grade and one below-grade basement. Windows of various shapes and sizes are on all sides of the building, most without shades. Some of the windows and wood frames

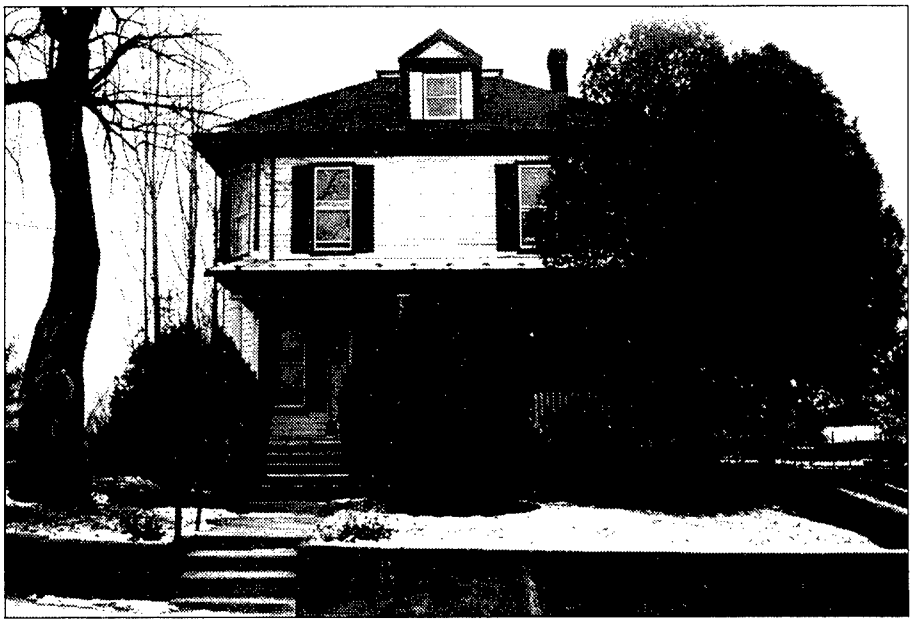

Figure 87. Exterior view of the house where TAA offices are located.

have been replaced. Personnel have occasionally experienced draftiness and water leaks.

The collections storage room encompasses approximately 300 ft^3 upstairs in what used to be a bedroom. The room has a varnished wood floor, wallpaper over plaster interior walls, and one window in a wood frame. A plaster ceiling has a single hanging light fixture with an incandescent bulb.

Environmental Controls

Temperature controls for the building consist of gas hot-water radiators for heat and a few window air-conditioning units. It is unknown whether any dust filters are present on the environmental controls. Humidity levels are not monitored; however, a dehumidifier is located in the basement to control the high levels of humidity. The plumbing, electrical, and heating systems all have been recently upgraded. Natural light and incandescent bulbs in the light fixtures are used to light the offices and collections storage areas.

A neighbor is relied upon to make any minor repairs needed to the house, and private contractors are hired for any major maintenance needed. A professional cleaning service is employed to clean the house weekly. The asbestos that used to be in the house has been removed. Water damage to the house is visible on the ceiling over the staircase.

Pest Management

A pest-management program has not been established at this facility. Precautions are taken against insects and rodents on an as-needed basis using mouse traps and "bug bombs" to fumigate. Personnel have experienced an occasional problem with mice during the cold winter months.

Security

Security measures for this facility consist of key and dead bolt locks on all exterior doors and a key lock on the wood-panel door to the collections storage room. All of the windows in the house—including the one in the collections storage room—have sliding latch locks. There is no evidence of unauthorized access, nor have there been any episodes of unauthorized entry into the building. The collections stored at TAA are not considered to have a high market value.

Fire Detection and Suppression

TAA lacks fire-detection systems. A dry-chemical fire extinguisher is located on the porch of the building. No fire-detection or -suppression systems are present in the collections storage area.

Artifact Storage

Collections from individual sites and regions are stored together as a unit. Artifact collections are readily available to the staff of TAA who know how they are organized. Most of the collections are sent to the state repositories in Richmond, Virginia, or Charleston, West Virginia. The Army collections recovered from Fort Belvoir are by default still here. Refer to Table 29 for the percentages of material classes represented in the Fort Belvoir collection.

Storage Units

There are no storage units for the artifact collections. Boxes are stacked four or five high on the floor of an upstairs bedroom (Figure 88).

Primary Containers

The 1.1-ft^3 acidic-cardboard boxes are of a folded construction with telescoping lids. Labels are written directly on the box in marker and consist of the installation name, site numbers, and the project year.

Secondary Containers

Most (94%) of the secondary containers consist of plastic bags that have been folded and stapled shut for security. Approximately 5 percent of the artifacts are stored loose within a cardboard box and a small percentage (1%) of artifacts are stored in tinfoil or yogurt containers. Labels consist of paper slips written in pen and inserted into the secondary containers with the artifacts.

Laboratory Processing and Labeling

Most (95%) of the artifacts have been cleaned. Approximately 29 percent of the artifacts have been labeled directly in pen, while only 13 percent of the artifacts have been sorted by material class.

Table 29. Summary, by Volume, of Material Classes Present in Fort Belvoir Collections at TAA

Material Class	%
Prehistoric	
Lithics	16
Soil	3
Historical-period	
Metal	39
Ceramics	25
Brick	9
Glass	6
Plastic	2
Total	100

Records Storage

Approximately 1.25 linear feet (15 linear inches) of associated archaeological documentation and reports are stored in acidic-cardboard boxes stacked on the floor of an upstairs bedroom that is used as a collections storage area. Half of the documentation was generated from a project on Fort Belvoir, and the rest of the documentation is associated with a project on HDL, part of Adelphi Labs.

Although the documentation is readily accessible to the people who work here, none of the documentation has been inventoried. Records are arranged by the size of the project and then by the project itself. Older project records are stored in cardboard boxes, while the active projects are filed in metal file cabinets. All staff members have access to the records, but a checkout system has not been established. Duplicate copies of all original documentation have not been produced. Original reports are kept with the associated records and copies are kept filed in a library and on computer disk.

Paper Records

Approximately 6.5 linear inches of administrative and excavation records, and 1 linear inch of report records associated with archaeological work conducted at Fort Belvoir are stored in an acidic-cardboard box labeled directly in marker.

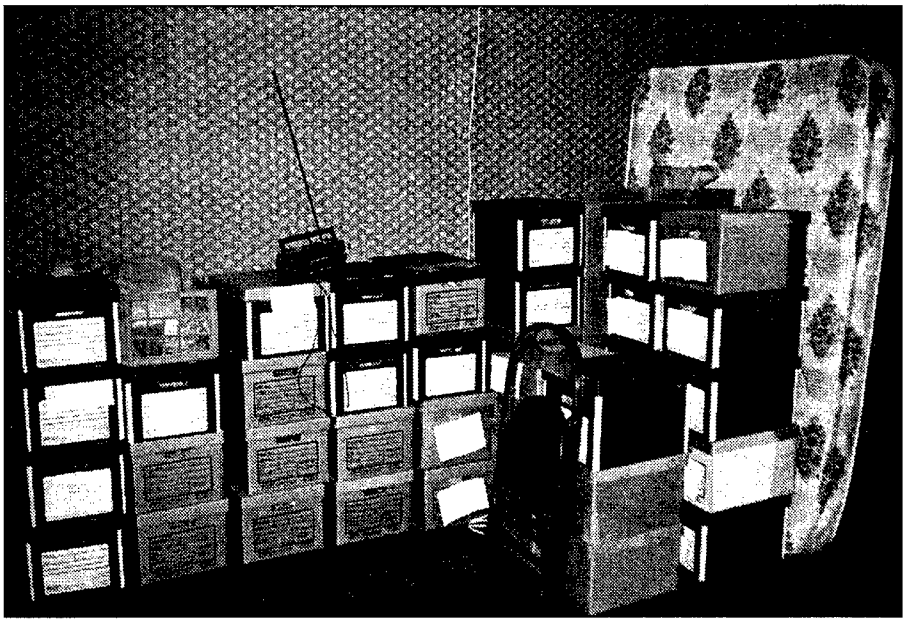

Figure 88. Boxed collections are stacked on the floor in an upstairs bedroom at TAA.

There are 4.5 linear inches of administrative and excavation records, and 3 linear inches of report records associated with archaeological work conducted at HDL also stored at TAA. The 1-ft^3 box is folded with a telescoping lid. Records are filed in acidic and acid-free manila folders labeled with the project number. Records are generally in good condition; however, contaminants, such as staples and paper clips, are present on the original documentation.

Computer Records

One disk associated with the Fort Belvoir project is stored in a protective folder with the paper records. The disk is labeled with an adhesive tag.

Maps and Oversized Documents

Several small maps generated during fieldwork on both projects, and maps prepared for the associated report are also included in the boxes of records. They are folded within the field notes.

Project Reports

As mentioned above, 1 linear inch of report records associated with archaeological work conducted on Fort Belvoir and 3 linear inches of report records associated with HDL are stored with the paper records in the collections storage area.

Collections-Management Standards

TAA does not view itself as a permanent curation facility and, accordingly, does not have many of the written guidelines and procedures recommended for the long-term curation and management of archaeological collections.

Registration Procedures

Accession Files

Accession files are not kept for the collections unless it is specified in the project.

Location Identification

The location of the collection is not identified. A master catalog of the collections has not been produced, but the original inventory of the collection is available.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

Except for the project reports, a published guide to the collections has never been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system and occasionally the U.S. Forest Service site-numbering system is used in addition to their own field numbers when assigning numbers to archaeological sites.

Computerized Database Management

Computerized database-management programs are used and backups are made weekly on disk.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards exist; only collections associated with TAA projects are stored there, and these, temporarily.

Curation Policy

TAA has not developed a comprehensive plan for curation, but does use the specific state and/or agency standards.

Records-Management Policy

A records-management policy has not been developed. Kim Snyder, the lab supervisor, is responsible for the record maintenance and security.

Field-Curation Procedures

No formal field-curation guidelines have been written.

Loan Policy

No collections have ever been loaned.

Deaccessioning Policy

A deaccessioning policy has not been established.

Inventory Policy

An inventory policy has not been established.

Latest Collection Inventory

The last collections inventory occurred when the company moved to their current location nine or ten years ago.

Curation Personnel

TAA does not employ a full-time curator for the archaeological collections, as they are not a permanent curation facility. Kim Snyder, the lab supervisor, also manages the contracts for northern Virginia. Bill Gardner, the president of the company, supervises all work.

Curation Financing

A standard curation fee is charged to clients in the terms of agreement for the project. Additional financing is acquired through the company's overhead budget.

Access to Collections

Staff members have access to the archaeological collections stored at TAA. A formal policy regarding access to the collections by researchers does not exist, but interested researchers are granted access upon request.

Future Plans

Currently, there are no future plans to upgrade the curation program for these collections.

Comments

1. Water damage is visible inside the house by the stairs.

2. Temperature fluctuations are not controlled and humidity levels are neither monitored nor controlled in collections storage areas.

3. Security measures are inadequate.

4. Most windows do not have shades; light sources lack film or sleeves that would protect against damaging UV rays.

5. There is no integrated pest-management policy.

6. There is no fire-detection or -suppression systems present in any of the offices or collections storage areas.

7. Artifact collections are stored in acidic-cardboard boxes stacked on the floor. A small percentage of artifacts are stored in tinfoil and old yogurt containers.

8. Original documentation is not duplicated or stored in an acid-free environment.

9. Many of the written policies and procedures recommended for the management of artifact collections and associated documentation have not been established.

Recommendations

1. Develop a reliable pest-management plan which includes both regular monitoring and control methods.

2. Acquire storage units for the collections to get them off the floor and to reduce the chance of box compression from overstacking. Collections should be stored in acid-free boxes with adhesive, polyethylene label holders, and acid-free-paper label inserts. (Labels should not be applied directly to the boxes.) When label information changes, inserts can be easily replaced, thus reducing the chance for conflicting and confusing information.

3. Artifacts within the acid-free boxes should be rebagged and reboxed into zip-lock, 4-mil polyethylene bags. [This is a recommendation of the St. Louis District.] Interior labels made from spun-bonded, polyethylene paper (e.g., Nalgene polypaper) should be labeled in indelible ink and inserted into the plastic bags.

4. Make duplicate copies of all associated documentation on acid-free paper and store these materials in a separate, fire-safe, secure location.

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U.S. Army Corps of Engineers, Baltimore District

Baltimore, Maryland

Repository Summary

Volume of Artifact Collections: 18.5 ft^3

Compliance Status: Artifacts require complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation. Artifacts should be removed from current acidic-cardboard box primary containers and acidic-paper bag secondary containers, and placed in archival-quality zip-lock bags and acid-free Hollinger boxes.

Linear Feet of Records: 0.9 linear foot (11.25 linear inches)

Compliance Status: Documentation requires complete rehabilitation to comply with existing federal guidelines and standards for curation of archaeological documentation. Records should be removed from current acidic folders and placed in archival-quality containers. Duplicate copies should be produced and stored at a separate, secure location.

Human Skeletal Remains: None

Status of Curation Funding: Curation of archaeological collections is financed as overhead in the state budget.

Dates of Visits: February 8, 1995, and December 11, 1995

Points of Contact: Mark Baker, Ken Baumgardt, Steve Israel, and Scott Watkins

USACE Baltimore District oversees archaeological compliance activities for civilian projects and military installations within its military district jurisdiction. USACE Baltimore District offices are located in the federal building in downtown Baltimore, one of two storage locations holding artifact collections. The other storage location is a storage facility located adjacent to Fort McHenry, south of downtown Baltimore.

A total of 18.5 ft^3 of artifacts from military archaeological collections is housed with the USACE Baltimore District (Table 30).

Assessment of Storage Location 1: Federal Building

The federal building is a modern, multistory structure housing multiple government agencies and consisting mainly of offices and partitioned areas. It was constructed in 1993, and has 11 floors above grade and one below grade. The facility is equipped with a receiving/loading dock

Table 30. Summary of Military Collections, by Installation, at USACE Baltimore District

Installation	Volume of Artifacts (ft^3)
Adelphi Labs	16.0
Fort Meade	2.5
Total	18.5

and an area for temporary collections storage. General archaeological administrative papers and permits are kept on file in a large file-cabinet section adjacent to the offices.

Structural Adequacy

The foundation of the building is concrete, with exterior walls constructed of poured concrete over steel. The roof is built-up asphalt; it leaks water. The interior walls and partitions have been repositioned multiple times. There are many exterior doors and windows.

Environmental Controls

The building is equipped with central heating and air-conditioning systems, which have dust filters. Humidity is neither monitored nor controlled. Maintenance and cleaning are conducted regularly by the building owner's staff. Lighting is provided by fluorescent tubes, which lack UV filters.

Pest Management

There is no integrated pest-management program. Pest control is conducted on a semi-yearly contract with a private pest-management firm. At the time of the evaluation, there were no signs of pests infestations.

Security

Access to the federal building is controlled by a security desk, which employs a 24-hour in-house armed guard. After hours, doors lock on the exterior and at the office level, limiting access to the use of electronic card keys.

Fire Detection and Suppression

Fire detection consists of manual fire alarms and smoke detectors. Fire suppression consists of a sprinkler system and fire extinguishers located in the hallways.

Assessment of Storage Location 2: Storage Facility Adjacent to Fort McHenry

The storage facility is used for a variety of storage purposes, one of which is archaeological collections (Figure 89). The one-story structure was constructed in the 1950s and encompasses approximately 5,000 ft^2 of floor space. The building has areas for artifact storage, materials storage, and offices.

Structural Adequacy

The foundation of the building consists of concrete, and exterior walls are composed of concrete block. The roof is tin, and is original to the building. The roof has leaked in the past. Interior renovations have consisted of additions and rearrangements of plywood partitions for interior walls. There are four exterior windows on the east side of the building, all with aluminum frames, and all lacking shades.

The floor in the collections storage area is concrete; the walls are plywood. The collections storage area has a plywood ceiling that is lower and not connected to the ceiling of the storage facility. There are no windows in the collections storage area, and one wood-panel door opens to the rest of the facility.

Environmental Controls

The storage facility has no environmental controls. Maintenance and cleaning are conducted as needed by USACE Baltimore District's logistics department.

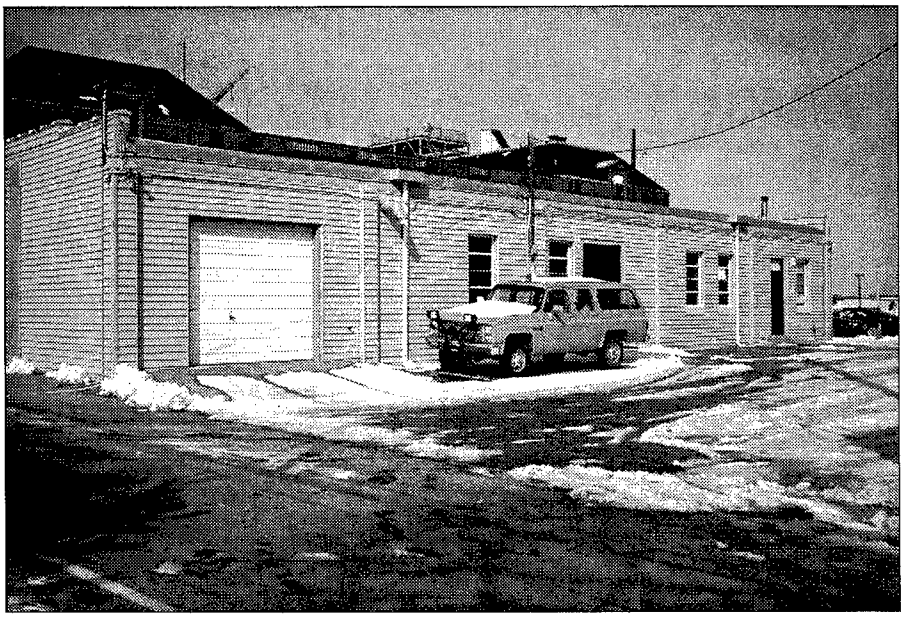

Figure 89. View of Storage Location 2, the storage facility used by USACE Baltimore District.

Pest Management

There is no regular monitoring or control of pest infestations. When needed, rat poison is used to control rodent infestations.

Security

The exterior doors of the facility are locked with padlocks and key locks.

Fire Detection and Suppression

There is no fire-detection system. Fire suppression consists of fire extinguishers.

Assessment of Both Storage Locations

Artifact Storage

Storage Units

At the time of the two visits by St. Louis District personnel, artifact collections were stored in three locations: Two boxes were stored on the floor in a technical equipment/storage room in the federal building (February 1995 visit), five boxes were stored on the floor in an unused work station in the same building (Figure 90) (December 1995 visit), and eight boxes were stored on the floor of the storage facility adjacent to Fort McHenry (February 1995 visit) (Figure 91). Table 31 outlines the material classes present in the military collections at USACE Baltimore District.

Primary Containers

Thirteen primary containers are acid-free-cardboard Hollinger boxes with telescoping lids. Two boxes are acidic cardboard, one with a telescoping lid and the other without one. Collections stored at Storage Location 2, the Fort McHenry storage facility, are labeled either directly in marker or with an acidic-paper tag taped to the box. Label information consists of installation, site numbers, and date. Collections stored at Storage Location 1, the federal building, are labeled either with computer-generated acid-free-paper labels or with preprinted acid-free-paper tags recorded in marker and enclosed in zip-lock plastic bags adhered to the box.

Secondary Containers

These containers consist mostly of zip-lock plastic bags and paper bags (Table 32) (Figure 92).

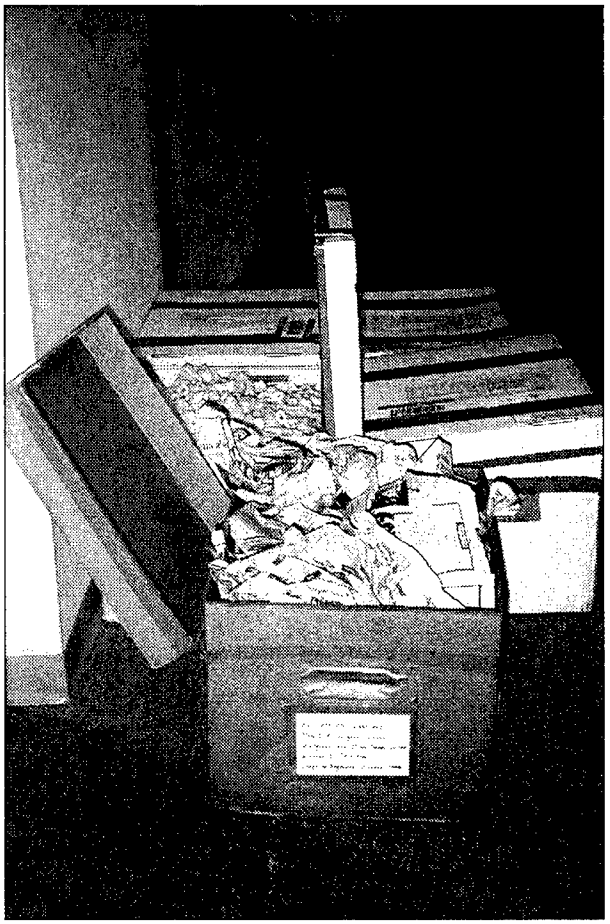

Figure 90. Boxes of artifacts are stored in Storage Location 1, USACE Baltimore District offices. Note the newspaper as additional packing material.

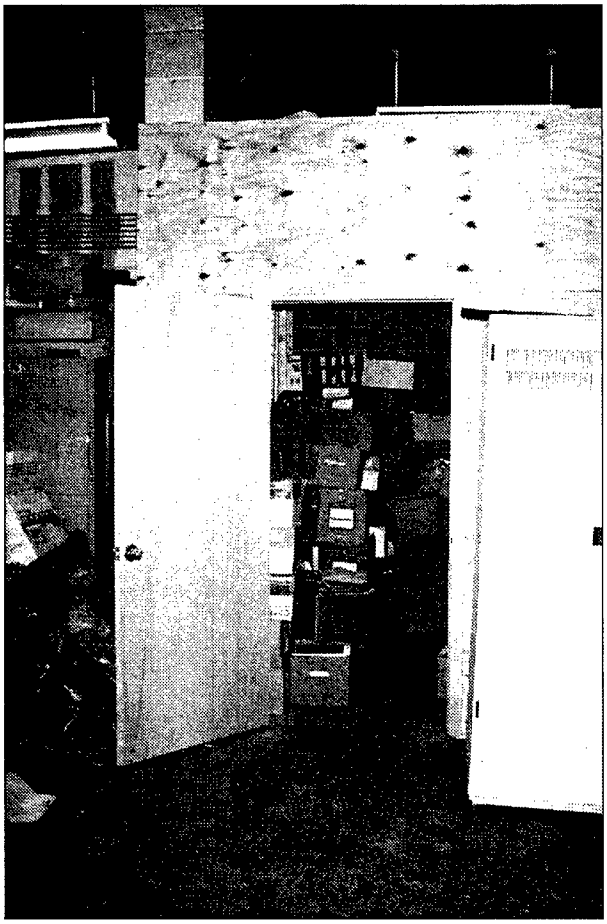

Figure 91. View of the collections storage area in Storage Location 2. Note that the walls do not extend to the ceiling and the boxes of collections are stacked haphazardly, causing damage.

Table 31. Summary, by Volume, of Material Classes Present in Military Collections at USACE Baltimore District

Material Class	%
Prehistoric	
Lithics	40
Soil	8
Ceramics	1
Historical-period	
Glass	36
Metal	10
Ceramics	5
Total	100

Table 32. Summary, by Volume, of Secondary Containers Used for Military Collections at USACE Baltimore District

Container Type	%
Paper bags	49
Zip-lock plastic bags	30
Loose	21
Total	100

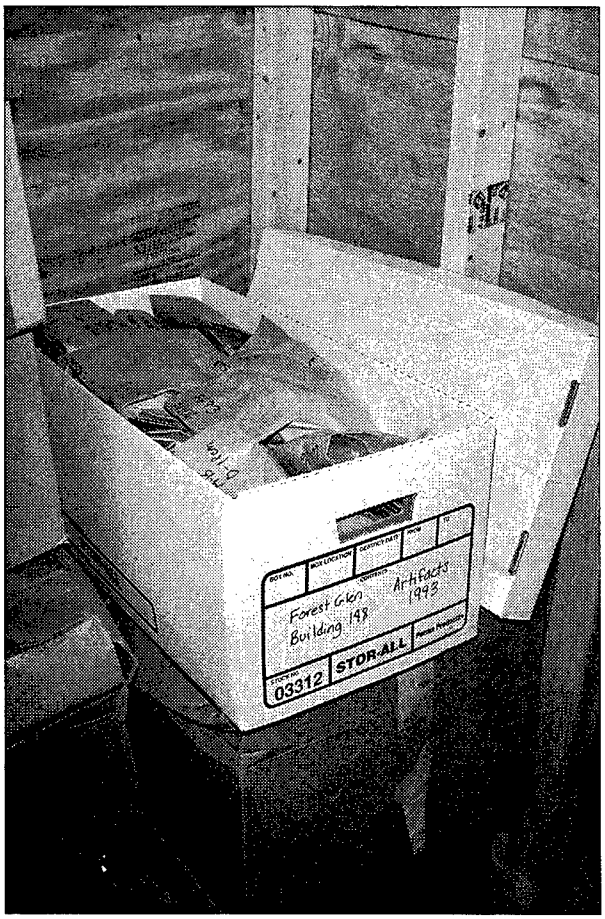

Figure 92. Acidic-paper bags are used as secondary containers for artifacts in Storage Location 2.

Table 33. Summary of Documentation (in Linear Inches), by Installation, at USACE Baltimore District

Installation	Type of Documentation			
	Paper	Reports	Photo-graphs	Total
Adelphi Labs	—	1.5	—	1.50
Fort Meade	9.25	—	0.5	9.75
Total	9.25	1.5	0.5	11.25

Bags are labeled directly in marker, generally with information consisting of site numbers, installation, and provenience. Several boxes contain multiple tertiary containers, all zip-lock plastic bags labeled directly in marker like the secondary containers or by acid-free-paper tags placed within the bags.

Laboratory Processing and Labeling

Most (99%) of the artifacts have been cleaned, but only approximately 21 percent have been labeled. Most labels consist of site number written in ink directly on the artifact or on white correction fluid. All of the artifacts have been sorted by material class.

Human Skeletal Remains

USACE Baltimore District is not currently curating any human skeletal remains recovered from military installations in the project area.

Records Storage

USACE Baltimore District houses 11.25 linear inches of documentation associated with archaeological projects conducted on military installations in the project area. Table 33 outlines the types and quantities of documentation. Records are stored on the floor in boxes in an unused workstation and in the temporary storage room of the federal building, Storage Location 1.

Paper Records

Original documentation, still located with the contracting firm, has been copied onto acid-free paper and stored in the same primary containers as the artifacts. Primary containers consist of acid-free-cardboard boxes with telescoping lids. These containers are labeled either by computer-generated acid-free-paper labels or by information written in marker on preprinted acid-free-paper tags enclosed in zip-lock plastic bags and stuck to the box. Label information consists of installation, site numbers, and contents. Secondary containers consist of acid-free folders, plastic or vinyl three-ring binders, and zip-lock plastic bags. Some material is loose within the primary containers. Secondary containers are labeled directly with project name. All records are in good condition.

Photographic Records

Photographic records consists of color prints and contact sheets, and are stored with the paper records. Prints and contact sheets are directly labeled with the installation, roll number, exposure number, and copy number. Secondary containers for photographic materials consist of archival, plastic preserver sleeves housed in plastic or vinyl three-ring binders.

Project Reports

One and one-half linear inch of project reports are stored with the paper records.

Collections-Management Standards

Registration Procedures

Accession Files

Archaeological materials are not accessioned.

Location Identification

The location of artifacts within the storage location is not identified in any file or document.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used for site-record administration.

Computerized Database Management

There is no computer database system for the management of archaeological collections.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no minimum standards for acceptance.

Curation Policy

There is no written plan that addresses the receipt, processing, and use of materials. USACE Baltimore District follows state guidelines addressing curation issues.

Records-Management Policy

There is no written records-management policy addressing the guidelines and standards for the curation of documentation. The district follows state guidelines addressing the curation and management of associated documentation. Extra copies of documentation (on acid-free paper) are sent to MHT.

Field-Curation Procedures

Field-curation procedures outlined in the state guidelines are followed.

Loan Policy

There are no loan procedures.

Deaccessioning Policy

There is no written deaccessioning policy.

Inventory Policy

There is no written inventory policy. State guidelines are followed.

Latest Collection Inventory

The collections were thoroughly examined in the early 1990s for a NAGPRA inventory.

Curation Personnel

Mark Baker, Ken Baumgardt, Steven Israel, and Scott Watson all have some involvement in the acquisition and curation of archaeological collections. Scott Watson has more direct responsibility for the collections.

Curation Financing

Curation is financed through USACE Baltimore District's Planning Division overhead.

Access to Collections

Access to the collections is limited to the cultural resources staff. Other staff members and outside researchers can be given access upon request.

Future Plans

USACE Baltimore District is interested in acquiring the funds and administrative support to enhance the existing storage facility adjacent to Fort McHenry.

Comments

1. Storage Location 2 is not equipped with environmental controls and has problems with a leaky roof. Storage Location 1 has no humidity monitoring or control, but does have temperature controls.

2. Neither storage location has an integrated pest-management system.

3. Storage Location 1 has a 24-hour in-house armed security guard, in addition to key locks and electronic card-key access. Storage Location 2 is secured with only a key lock.

4. Storage Location 1 has a sprinkler system for fire suppression; Storage Location 2 has only fire extinguishers.

5. Although most primary containers for the collections are acid-free-cardboard boxes, a significant portion of the secondary containers are paper bags.

6. USACE Baltimore District does not have most of the written policies and procedures necessary to effectively manage archaeological collections in perpetuity.

Recommendations

1. Remove the artifact collections from Storage Location 2, and place them in a secure, dedicated space within the Storage Location 1, the federal building.

2. Begin an integrated pest-management system that includes both regular monitoring and control.

3. Rebox and rebag artifacts into acid-free-cardboard boxes and archival-quality polyethylene bags. Insert acid-free-paper labels into each bag.

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University of Delaware, Center for Archaeological Research

Newark, Delaware

Repository Summary

Volume of Artifact Collections: 4.5 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Linear Feet of Records: 0.2 linear foot (2 linear inches)

Compliance Status: All associated documentation is generally in very good condition. Original documentation requires partial rehabilitation to comply with existing federal guidelines and standards for curation for archaeological documentation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are financed through grants which have been awarded to UDCAR. No permanent funding for curation exists.

Date of Visit: January 23, 1996

Point of Contact: Jay Custer

UDCAR is a not-for-profit research center that is part of the University of Delaware's Department of Anthropology. Personnel at UDCAR routinely conduct all phases of archaeological research to comply with requirements of federal, state, and local cultural resource legislation. UDCAR also undertakes privately sponsored and volunteer archaeological research studies in order to better understand Middle Atlantic region history and prehistory. Repository information for UDCAR was compiled on a St. Louis District visit for the Air Mobility Command (see Table 1).

Approximately 4.5 ft^3 of artifacts and less than 1 linear foot of associated documentation from Blossom Point, Woodbridge, and Fort Myer are being curated at UDCAR (Table 34). The collections consists of both historical-period and prehistoric artifacts (Table 35).

Assessment

UDCAR is housed in a two-story industrial building located off campus in the Sandy Brae

Table 34. Summary of Military Collections, by Installation, at UDCAR

Installation	Volume of Artifacts (ft^3)	Associated Records (linear inches)
Blossom Point	2.7	0.25
Fort Myer	0.9	0.75
Woodbridge	0.9	1.00
Total	4.5	2.00

Table 35. Summary, by Volume, of Material Classes Present in Military Collections at UDCAR

Material Class	%
Prehistoric	
Lithics	30
Historical-period	
Ceramics	22
Glass	15
Metal	12
Faunal remains	10
Brick	6
Leather	3
Plastic	2
Total	100

Industrial Complex and encompasses approximately 8,000 ft^2 (Figure 93). The building contains approximately 6,000 ft^2 of storage space and 2,000 ft^2 of office and laboratory space. Activity areas in this facility include offices, a conservation laboratory, rest rooms, a collections storage area, a records storage area, and a small research room. There are three uncovered loading docks that open into the collections storage area, two on the south wall and one on the north wall.

Structural Adequacy

The building housing UDCAR, which was constructed in 1990, was not originally designed for the curation of archaeological artifacts. The original owner sold the building to the University of Delaware, and the anthropology department established UDCAR in the building in 1991.

The building is a corrugated metal and brick structure with a corrugated metal roof and a poured-concrete floor. The collections storage room consists of two levels—a lower concrete floor and an upper wood-joist floor. Interior walls of the offices and the records storage area are insulated and covered with gypsum wallboard. Interior walls of the collections storage area are either concrete block or wood frame covered with insulation. Ceilings on both levels are constructed partially of steel beams bolted together, and partially of exposed 2-x-6-x-10-inch wood joists, which have been filled with plastic-backed insulation.

Both the electrical and plumbing systems are original to the construction of the building. Each system is in good working condition and is maintained by campus personnel when needed. Heating and air-conditioning systems in the building are also original and are in good working condition.

Eighteen windows, all of which are located in the office areas, are protected by blinds. No windows are located in the collections or records storage areas. On the first level, the collections storage area is divided into two large rooms separated by a steel door. In the first area, there is one steel fire door on the south wall and one loading-dock door directly opposite the steel door. In the second area, there are two loading-dock doors, one along the south wall and one along the north wall. The only other access to the outside is the front entrance, which leads to a reception area. The building is structurally sound and meets most of the minimum federal requirements for the curation of archaeological collections.

Environmental Controls

Environmental conditions in this facility are maintained by a central air conditioner and a forced-air heating system which is divided into three zones—an office zone, a collections storage zone, and a records storage zone. Temperature in the collections storage zone is maintained

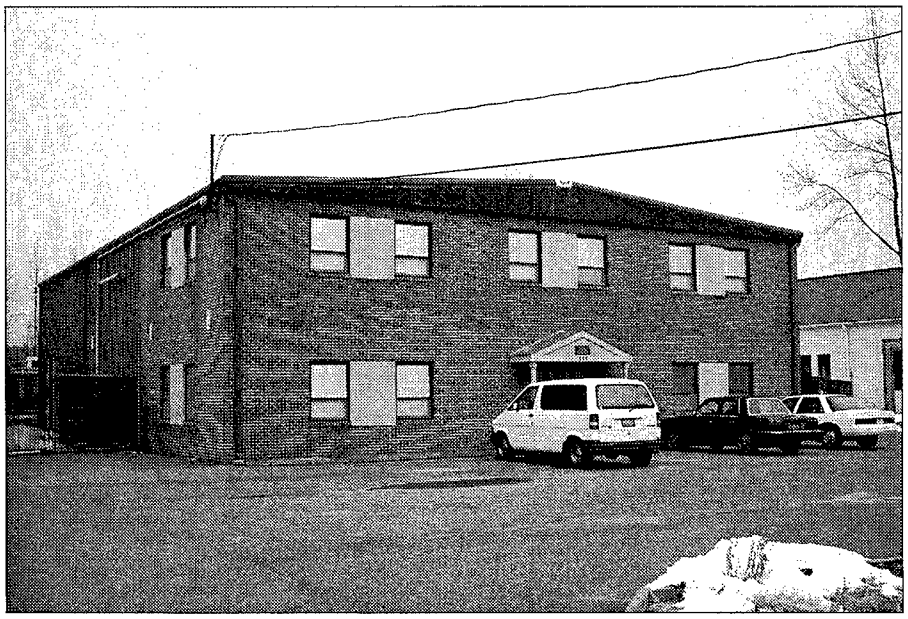

Figure 93. View of the building used by UDCAR.

at 68–74° F. No humidity-monitoring or -control devices exist in the building. Dust filters are used in the heating system and are replaced regularly. Lighting throughout the facility consists of fluorescent light bulbs with no UV screens. Regular maintenance of the plumbing and electrical systems is provided by the University of Delaware; weekly cleaning is performed by the curatorial staff.

Pest Management

The University of Delaware provides the pest-management program at UDCAR. University personnel spray the facility with a professional insecticide on a biannual basis. Between scheduled maintenance activities, members of the curatorial staff watch for signs of pest infestation. No signs of pest infestation were noted by the assessment team.

Security

The repository meets most federal requirements for safeguarding archaeological collections. A barbed-wire-topped, 10-foot chain-link fence with a locked gate surrounds the collections storage portion of the building, thus restricting access from the outside. All doors in the collections storage area are secured with key and dead bolt locks; the loading-dock doors are bolted down when not in use. The front door, although glass, is secured with a double-cylinder dead bolt lock. A contact point intrusion alarm is in place on the front entrance. There are eight windows on the ground level, but all have window locks to prevent access. Additional security is provided by campus security officers who patrol the area approximately eight times each night. Access to the building is controlled by curatorial personnel who possess a limited number of keys to the building and the collections storage room.

Fire Detection and Suppression

Manual fire alarms, which are placed at various locations throughout the facility, are connected to the local fire department. There are smoke detectors, heat sensors, and fire extinguishers located throughout the building. Fire extinguishers are checked regularly by qualified personnel.

Artifact Storage

The artifact collections recovered from Blossom Point, Woodbridge, and Fort Myer consist mostly of historical-period material, with less than 1 ft^3 of prehistoric lithic material. See

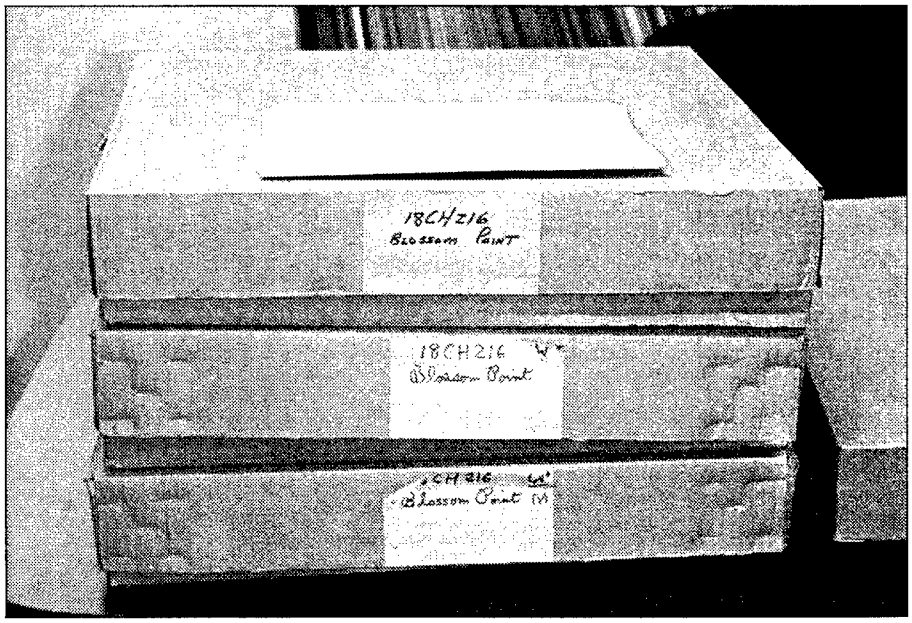

Figure 94. Examples of the primary containers used at UDCAR for artifact collections recovered from Blossom Point. The acidic-paper labels have been stapled to the boxes. The only associated documentation is in a single manila file folder on top of the boxes.

Table 35 for the approximate percentages of material classes represented in the collections.

Storage Units

Collections are stored on uncoated-wood shelving units, which are constructed of 2-×-4-inch lumber bolted together with particleboard. Each shelving unit measures 4 × 2 × 10 feet (w × d × h), and in most cases, two or more of these units are bolted together to form a row of shelving.

Primary Containers

Primary containers consist of standard (0.9 ft^3) acidic-cardboard boxes that resemble pizza boxes, with folded-over attached lids. Box labels are acidic index cards written in purple marker and stapled to the boxes (Figure 94). Label information includes the project and site numbers; additional information may be included on individual labels.

Secondary Containers

Within the boxes, labeled paper bags hold smaller, zip-lock plastic bags or bags secured with twist-ties. The paper bags are folded and crumpled. At the time these projects were carried out, Virginia did not have state guidelines for the curation of artifacts and, consequently, UDCAR was told not to worry about packaging the artifacts in anything other than paper bags.

Laboratory Processing and Labeling

Most of the archaeological artifacts have been sorted by material class. Only half (50%) of the artifacts from the three installations have been cleaned. Approximately 12 percent of the artifacts have been labeled directly with ink on white correction fluid.

Human Skeletal Remains

No human skeletal remains recovered from Blossom Point, Woodbridge, or Fort Myer are currently being curated at UDCAR.

Records Storage

Associated documentation from projects on Blossom Point, Woodbridge, and Fort Myer that are curated at UDCAR comprise less than 1 linear foot. Records are filed in manila folders that are labeled in ballpoint pen with the project name. The files are curated in a standard, letter-

sized, four-drawer file cabinet located in a room upstairs and down the hall from the collections storage area. Each file cabinet is numbered and each drawer is labeled with a piece of masking tape that has a letter written in red marker. Records can be located in a computerized database by project and file cabinet drawer. Records are arranged by project and year and are kept in excellent condition.

Paper Records

Most of the associated documentation was in the form of paper records which included background records, survey records, hand-drawn and photocopied maps, and administrative records. Contaminants, such as staples and paper clips, were present on the original documentation.

Report Records

A small amount of the records include a draft of a project report for Woodbridge.

Collections-Management Standards

Registration Procedures

Accession Files

Materials are processed and accessioned simultaneously upon receipt.

Location Identification

The location of the collection is identified in the accession file.

Cross-Indexed Files

Files are cross-indexed by project name and year in a collections catalog database.

Published Guide to Collections

Except for the project reports, a published guide to the collections has never been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is in use.

Computerized Database Management

Computerized database-management programs are used to manage the collections.

Written Policies and Procedures

Minimum Standards for Acceptance

No written minimum standards for the acceptance of collections have been established at UDCAR.

Curation Policy

No written curation policy exists; staff members follow the standards outlined in 36 CFR Part 79.

Records-Management Policy

A records file is maintained in a machine-readable format.

Field-Curation Procedures

Field-curation guidelines have not been formalized at UDCAR.

Loan Policy

No written policy exists; Dr. Jay Custer, director of UDCAR, decides, on a case-by-case basis, which persons may borrow material.

Deaccessioning Policy

To date, UDCAR has never deaccessioned any material.

Inventory Policy

An inventory policy has not been established, but staff members are currently developing an inventory policy for the repository.

Latest Collection Inventory

A box-by-box inventory was completed in April 1993.

Curation Personnel

Dixon Faulls is currently acting as curator, in addition to his other duties. Two full-time staff members assist him with the accessioning, processing, and curating of archaeological collections.

Curation Financing

Curation activities are financed through grants which have been awarded to UDCAR. No permanent funding for curation exists. Members of the curatorial staff believe that approximately $80,000 per year is needed to meet current curatorial responsibilities.

Access to Collections

Access to collections is controlled by curatorial personnel. Researchers must make arrangements, in writing, with either Dr. Custer or the staff. Any requests for the loan of material must be made in writing to Dr. Custer.

Future Plans

Future UDCAR plans include (1) completion of the master database for collections and associated documentation, (2) improving the physical facilities to meet standards listed in 36 CFR Part 79, and (3) expanding the facility as demands for additional storage space increase.

Comments

1. UDCAR is a professionally managed institution that meets most federal requirements for long-term curation of archaeological collections.

2. No UV filters are present on any of the light fixtures.

3. Humidity levels are neither monitored nor controlled.

4. Written policies and procedures for the curation of artifacts and records are incomplete.

Recommendations

1. Rebox and rebag artifacts into acid-free-cardboard boxes and archival-quality polyethylene bags. Insert acid-free-paper labels into each bag.

2. Duplicate associated documentation onto acid-free paper and store at a separate, secure location.

33

Virginia Commonwealth University Archaeological Research Center

Richmond

Repository Summary

Volume of Artifact Collections: 2.2 ft^3

Compliance Status: Collections require complete rehabilitation to comply with existing federal guidelines and standards for curation.

Linear Feet of Records: 0.4 linear foot (5.25 linear inches)

Compliance Status: Associated documentation requires complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation activities are financed through the budget for work contracts. The staff feels that funding is not adequate for the firm's curation of artifacts and associated documentation, and a that substantial increase in curation funding would be beneficial.

Date of Visit: May 8, 1995

Points of Contact: Dan Mouer and Beverly Binns

VCUARC is an archaeological consulting division of the Virginia Commonwealth University's (VCU) Department of Sociology and Anthropology. Currently, VCUARC holds 2.2 ft^3 of artifacts and 0.4 linear foot (5.25 linear inches) of documentation from military installations in Virginia. Table 36 lists the volumes of the two military artifact collections stored at VCUARC. Table 37 outlines the percentages of material classes represented in the archaeological collections observed by the assessment team. General repository information was collected during a July 28, 1994, visit for the Atlantic Navy project (see Table 1).

Assessment

VCUARC is located in downtown Richmond, away from the University's main campus (Figure 95). The building that houses VCUARC has approximately 39,750 ft^2 of floor space, with VCUARC occupying 13,250 ft^2 of that total. VCUARC space includes offices; a garage; and storage areas for materials, supplies, records, and artifacts. There are also areas for artifact

Table 36. Summary of Military Collections, by Installation, at VCUARC

Installation	Volume of Artifacts (ft^3)
Fort Belvoir	1.1
Vint Hill	1.1
Total	2.2

Table 37. Summary, by Volume, of Material Classes Present in Military Collections at VCUARC

Material Class	%
Prehistoric	
Lithics	45
Historical-period	
Brick	20
Metal	18
Glass	13
Ceramics	2
Marble	2
Total	100

receiving, holding, washing, and processing. The collections storage area measures approximately 1,225 ft^2 of floor space.

Structural Adequacy

The VCUARC facility was constructed sometime in the early 1900s. Prior to VCUARC moving into the facility in 1994, it functioned as the Richmond Coliseum Auction House. The three-floor building has a concrete foundation with exterior walls composed of brick over concrete. The roof is built-up asphalt, and is original to the building. There have been extensive interior renovations in the office sections of the facility, including the addition of central heat and air-conditioning. Plumbing, electrical, and environmental utilities were upgraded throughout the facility, but it is unclear when this occurred. The facility has multiple windows on the southwest and northeast sides. One exterior door is at the rear of the facility (southwest). Another—a wood-frame door with glass panes—is at the front, along with an overhead metal garage door (northeast).

The offices are separated from the garage and the collections storage area by an interior metal-panel door. The collections storage area is secured from the rest of the repository by a northwest-facing rolling metal-mesh gate that extends from the floor to the ceiling (Figure 96). Within the collections storage area, there are eight windows, all facing to the rear of the facility (southwest), and one exterior metal-panel door facing the same direction. Two of the windows have wood frames, and six of the windows have metal frames. Metal-mesh grates are on the exteriors of all windows. There are no shades on the windows, but approximately three-quarters of them are opaque. The ceiling in the collections storage area consists of metal girders overlain by concrete.

Collections are stored under multiple overhead water pipes in the collections storage area; paint on the pipes is peeling and most pipes are rusted. Dirt and leaves are present throughout the collections storage area, especially in front of the rear exterior door. Dust is thick on the collections (Figure 97). Several glass window panes are broken. The impact of vehicle exhaust from the garage adjacent to the collections storage area on the collections is unknown. There is no solid wall or other form of environmental protection for the collections. The collections storage area is filled to approximately 50 percent capacity. The facility functions well as office and laboratory space, but rehabilitative measures need to be taken if collections are to be stored here long term.

Environmental Controls

The VCUARC offices have heat and air-conditioning, both equipped with dust filters. There is no means to monitor or control humidity. Bi-weekly maintenance for the facility is performed by a private contracting company.

There are no environmental controls in the collections storage area. Humidity is neither monitored nor controlled. Lighting is accomplished

Figure 95. Exterior view of the repository used by VCUARC.

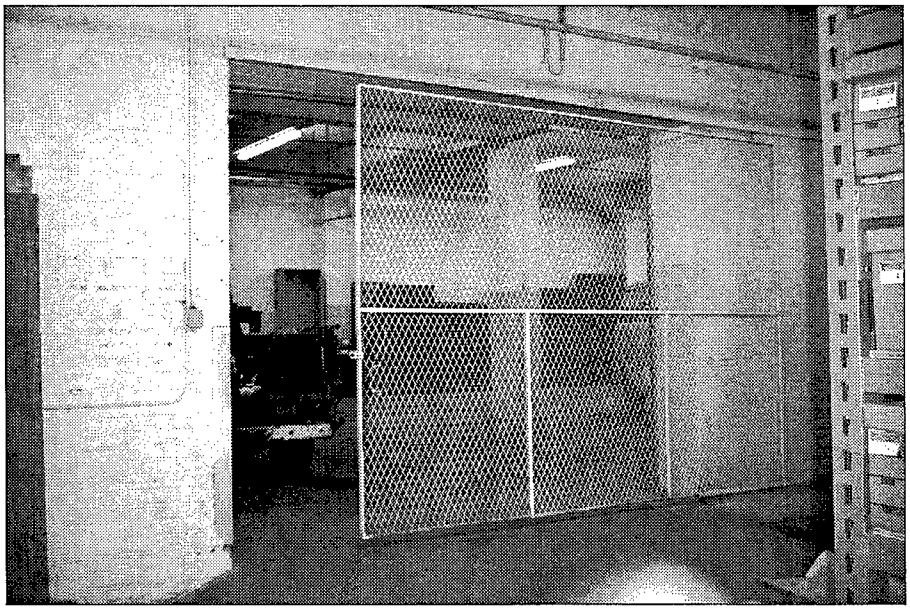

Figure 96. The collections storage area is separated from the rest of the facility by a sliding gate.

Figure 97. Exterior door in the collections storage area. Note the amount of dirt and leaves in front of the doorway.

by fluorescent tubes covered with plastic shields that do not filter out damaging UV rays. The collections storage area is maintained as needed by the curatorial staff of VCUARC.

Pest Management

There is no integrated pest-management system in place at VCUARC. A professional pest-management company is employed as needed. Staff members noted that roaches are sometimes a problem for the facility, but the assessment team did not observe any signs of pest infestations.

Security

Security measures for VCUARC consist of key locks and dead bolt locks on all exterior doors and simple window locks on the windows. The area is regularly patrolled by VCU police. The front of the facility includes large glass windows and a wood-framed door with a glass panel. The exterior garage door has locks and is opened and closed from the inside.

The sliding metal-mesh gate to the collections storage area is secured with a padlock. The exterior door in the collections storage area is secured with a dead bolt and a key lock. Windows in the collections storage area are locked, and are covered on the outside with metal-mesh grates. There are 15 people on staff, all of whom have access to the collections; however, access is controlled by the laboratory director.

Fire Detection and Suppression

Manual fire alarms and smoke detectors constitute the fire-detection system at VCUARC. Fire suppression consists of fire extinguishers and a sprinkler system.

Although there does not appear to be a sprinkler system within the collections storage area, there is a fire hose with a valve for access to water (Figure 98). A fire extinguisher is located immediately outside the collections storage area in the garage.

Artifact Storage

Storage Units

Storage units for artifact primary containers consist of enameled-metal uprights with 0.5-inch-thick particleboard sheets used as shelves. The metal storage units measure 8.2 × 4 × 8.8 feet (w × d × h). Units are seven shelves high.

Primary Containers

Two primary containers, each measuring 1.1 ft^3, house the military collections (Figure 99). One box contains artifacts from Vint Hill and the other contains artifacts from Fort Belvoir. Both primary containers are acid-free Hollinger boxes. Labeling is in marker, directly on the side of the container. Information consists of county, site number, and project.

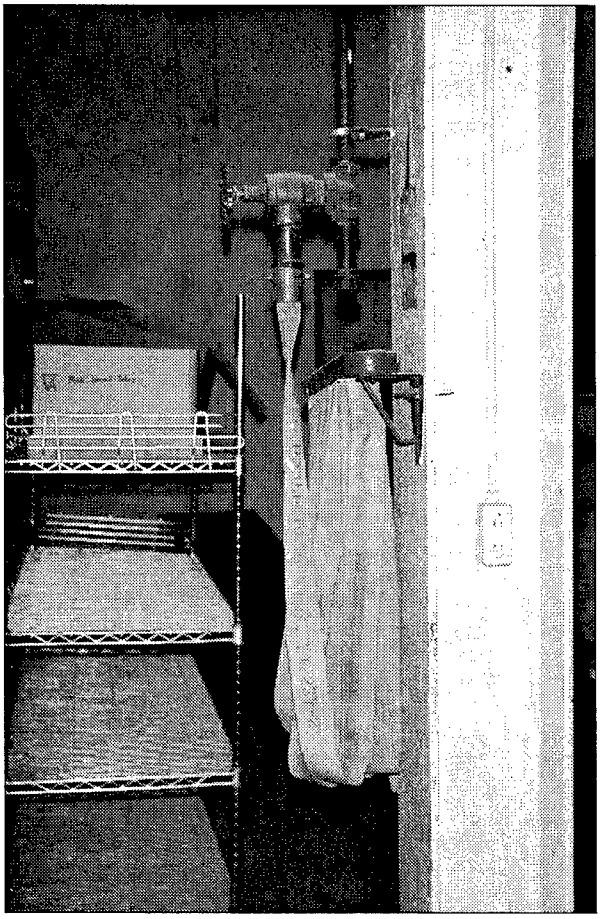

Figure 98. Fire hose located next to the collections storage area.

Secondary Containers

All secondary containers consist of archival-quality zip-lock plastic bags. Bags are labeled directly with marker; information includes site number and provenience. There are multiple tertiary zip-lock bags with interior acidic-paper tags with preprinted label information and additional information recorded, usually in pencil. Label information generally consists of project, site number, and provenience. At the time of the visit, one zip-lock bag of artifacts from the Vint Hill collection was on loan to the Vint Hill Museum.

Laboratory Processing and Labeling

All artifacts have been cleaned, but none have been labeled. All artifacts are sorted by provenience and by material class within provenience. Material classes within a single provenience are separated either by tertiary containers or by separate secondary containers.

Human Skeletal Remains

VCUARC does not curate any human skeletal remains from military collections.

Records Storage

VCUARC maintains a total of 0.4 linear foot (5.25 linear inches) of documentation from Fort A. P. Hill, Fort Belvoir, and Vint Hill. Documentation is stored on the same metal shelving units as the artifact primary containers. Records are arranged by project.

Paper Records

There are approximately 1.5 linear inches of paper records (Table 38). The paper records are stored in two primary containers: an acid-free-cardboard Hollinger box and a legal-sized file cabinet. The box measures 1.1 ft^3 and has a telescoping lid for security. It is labeled directly in marker. Label information consists of the installation name, site numbers, and project number.

Secondary containers for the paper records consist of acidic manila folders. In most cases, the folders are directly labeled in pen with the installation name and project. There is no organization other than by installation and project. A finding aid is available, but it is only a record of artifacts removed for conservation. Discoloration of the paper is common, as are the presence of contaminants such as staples and paper clips.

Maps and Oversized Documents

There are 3.25 linear inches of maps stored at VCUARC (see Table 38). Some maps are stored unlabeled and loose in the reports library. Other large maps are stored in the paper records primary container. Many of the maps are discolored and torn.

Project Reports

There is 0.5 linear inch of reports (see Table 38) stored in a metal file cabinet at VCUARC. Reports are bound and labeled with adhesive tags listing the title.

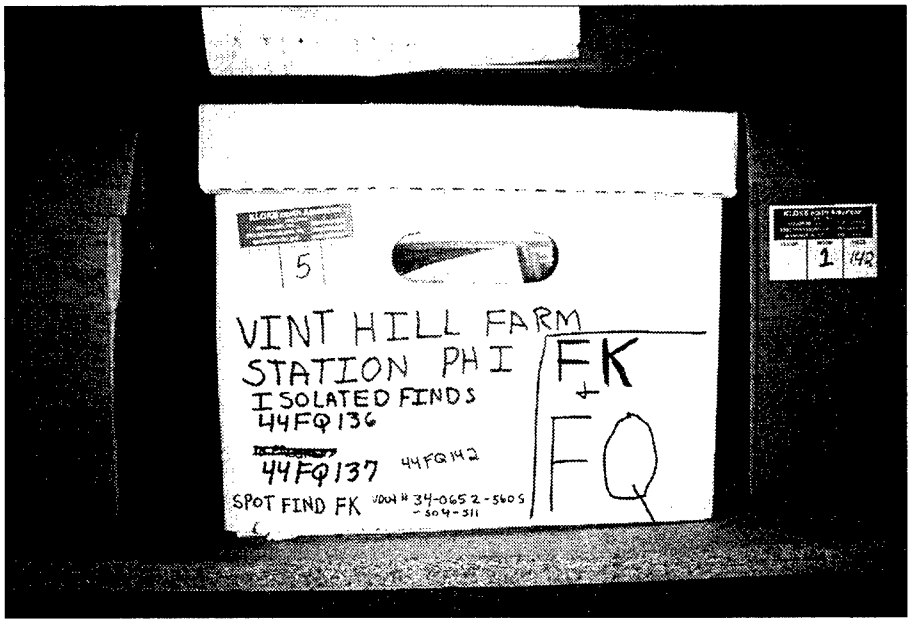

Figure 99. Example of the primary containers used to store collections. Cardboard boxes are labeled directly with black marker and stored on metal shelving units with particleboard shelves.

Table 38. Summary of Documentation (in Linear Inches), by Installation, at VCUARC

Installation	Type of Documentation			
	Paper	Reports	Maps	Total
Fort A. P. Hill	0.25	0.25	0.25	0.75
Fort Belvoir	0.25	0.25	—	0.50
Vint Hill	1.00	—	3.00	4.00
Total	1.50	0.50	3.25	5.25

Collections-Management Standards

Registration Procedures

Accession Files

All artifacts receive a catalog number and are inventoried.

Location Identification

The location of artifacts within the repository is not specified in any document.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

Except for the project reports, a published guide to the collections has never been produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is used.

Computerized Database Management

MacIntosh Excel is used for database management; there is no computer network. Backup copies of computer records are created bi-monthly and stored on disk. All copies are stored on-site.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no written repository-specific minimum standards for acceptance.

Curation Policy

There is no written standard comprehensive plan for curation. VCUARC follows the state standards for curation.

Records-Management Policy

There is no records-management policy.

Field-Curation Procedures

There are no field-curation guidelines.

Loan Policy

There is no written loan policy, but loan agreements are documented.

Deaccessioning Policy

VCUARC does not deaccession materials.

Inventory Policy

There is a written inventory policy.

Latest Collection Inventory

Collections were last inventoried in May 1994, after moving to the new facility.

Curation Personnel

Ms. Beverly Binns is the full-time laboratory director and curator for the archaeological collections. Dr. Dan Mouer is codirector and research archaeologist for VCUARC.

Curation Financing

Curation is financed through establishing contract overhead in archaeological consulting contracts.

Access to Collections

All staff members and outside researchers have access to collections, but they must first go through the laboratory director, Ms. Binns. If researchers wish to take materials out on loan, a formal agreement is undertaken.

Future Plans

Future plans include the reboxing of all records into acid-free containers. VCUARC will store computer disks and a list of records off-site.

Comments

1. Artifacts are stored in acidic-cardboard primary containers; all secondary containers are archival quality.

2. Documentation is stored in acidic primary containers. Secondary containers are acidic manila envelopes, although much documentation is simply stored loose in the primary container. A large percentage of the documentation is discolored.

3. There is no integrated pest-management system. Pest problems are addressed by a professional service as needed.

4. There are no environmental controls—including heating, air-conditioning, and humidity monitoring or regulation—within the collections storage area.

5. There is no fire-detection system in the collections storage area. There is a fire hose, however, and immediately outside the storage area is a fire extinguisher. There does not appear to be a sprinkler system in the storage area.

6. The sliding metal-mesh gate to the collections storage area is secured by a padlock. The exterior door in the collections storage area is secured by padlock and dead bolt lock. There is no electronic security system for the repository, and the front offices are vulnerable to break-ins, as they have large, glass front windows and only key locks on the exterior and interior doors.

7. Collections are stored under overhead water pipes in the collections storage area. Paint is peeling from most of the pipes, and rust is evident.

8. Several panes of glass are missing from the exterior windows in the collections storage area. While this is not a real security risk because of the metal mesh covering the outside of the windows, it does present an environmental problem.

Recommendations

1. Inventory and replace acidic-cardboard boxes containing artifacts and documentation with standard-sized, acid-free-cardboard boxes. Interior tags made from spun-bonded, polyethylene paper (e.g. Nalgene polypaper) should be labeled

in indelible ink and inserted into the polyethylene bags.

2. Replace secondary containers housing documentation with acid-free folders, and store them in acid-free-cardboard boxes. Copy documentation onto acid-free paper, and remove metal contaminants, such as staples or paper clips, from the originals. Small-scale maps can be stored with the paper records, but large-scale maps should be placed unfolded in a map flat.

3. Replace broken window panes in the collections storage area.

4. Install a sprinkler system in the collections storage area. Install fire alarms and wire them into the local fire department to ensure 24-hour monitoring and protection. Add fire extinguishers to the collections storage area.

5. Install an overhead metal garage door to the exterior of the sliding metal-mesh gate presently located outside the collections storage area. The door should have key and dead bolt locks. Install an electronic security system that is wired into the police department.

6. Install an HVAC system if possible. If not, install central air-conditioning and heating systems, monitor humidity with a sling psychrometer or hygrothermograph, and install a commercial dehumidifier.

7. Begin a regular pest-control system that includes both monitoring and control.

8. Remove particleboard shelves in the collections storage area and replace with enameled-metal shelving. If this is not feasible, seal the particleboard shelves with oil or alkyd paint or varnish. To prevent outgassing, avoid using latex or polyurethane as sealants.

9. Reorganize shelves in the collections storage area so that the shelves run parallel to the water and sewer pipes in the ceiling, but not directly under them. Pipes should run over aisles only.

34

Virginia Department of Historic Resources

Richmond, Virginia

Repository Summary

Volume of Artifact Collections: 79.2 ft^3

Compliance Status: Collections require partial rehabilitation to comply with existing federal standards and guidelines for curation.

Linear Feet of Records: 0.6 linear foot (6.75 linear inches)

Compliance Status: Associated documentation require complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation is financed through several methods. Contractors are charged a one-time curation fee; money is obtained through general state funds; and funds are acquired through conservation contracts. Staff members believe that it is important to address the backlog of inadequately cataloged collections, but feel that current funding is insufficient to do so.

Date of Visit: May 9, 1995

Points of Contact: Keith Egloff and Beth Acuff

VDHR curates 79.2 ft^3 of prehistoric and historical-period artifacts from multiple military installations in Virginia. Refer to Table 39 for a complete list of installations and the volume of artifacts per installation. Table 40 lists the percentages of artifact material classes encountered. There is 0.6 linear foot (6.75 linear inches) of associated records stored at this repository (Table 41). General repository information for VDHR was collected during a July 20, 1994, visit for the Atlantic Navy project (see Table 1). Military collections are curated at a facility located approximately 1 mile east of the VDHR offices. Associated records are housed in two separate buildings in the VDHR office complex. Each will be described separately.

Assessment of Storage Location 1: Extra Attic

This three-story, 90,000-ft^2 facility, located on "Tobacco Row," includes an 8,000-ft^2 artifact collections storage area located on the second floor of the building (Figure 100). The main artifact storage area is separated from a smaller area housing field equipment and supplies by a double-wide door frame. The building also contains a receiving/loading dock, a field equipment storage area, exhibit storage, offices, rest rooms, and a freight elevator.

Table 39. Summary of Military Artifact Collections, by Installation, at VDHR

Installation	Volume of Artifacts (ft^3)
Fort Eustis	60.5
Fort A. P. Hill	1.1
Fort Lee	14.3
Fort Monroe	2.2
Fort Story	1.1
Total	79.2

Table 40. Summary, by Volume, of Material Classes Present in Military Collections at VDHR

Material Class	%
Prehistoric	
Lithics	14
Shell	12
Ceramics	2
Faunal remains	1
Other[a]	1
Historical-period	
Brick	26
Glass	16
Ceramics	15
Metal	12
Other[b]	1
Total	100

[a] "Other" includes prehistoric botanical, flotation, and soil.
[b] "Other" includes historical-period worked bone, leather, coal, plastic, rubber, buttons, and minerals.

Table 41. Summary of Documentation (in Linear Inches), by Installation, at VDHR

Installation	Type of Documentation			
	Paper	Reports	Photo-graphs	Total
Fort Belvoir	0.25	—	0.25	0.50
Fort Eustis	0.50	—	0.50	1.00
Fort A. P. Hill	1.00	—	0.25	1.25
Fort Lee	3.00	0.25	0.25	3.50
Fort Story	0.25	—	0.25	0.50
Total	5.00	0.25	1.50	6.75

Structural Adequacy

Originally constructed in 1899 and used in the tobacco distribution industry, this three-story building is currently used as a state storage facility. It is located approximately 1 mile east of the VDHR offices in what is known locally as Tobacco Row. It has a concrete foundation, brick exterior walls, and a built-up tar and asphalt roof. The collections storage area is located on the second floor of the facility. Interior walls are constructed of brick, and the ceiling is composed of closely spaced 4-x-12-inch wood beams. The floors on the second and third stories are wood and have a maximum-load capacity of 200 pounds per square foot. There are multiple windows in the facility, all of which have been covered on the interior with plywood, and on the exterior with metal shutters. The assessment team entered the building by one of two large, rolling overhead, metal garage doors on the south side of the facility. Two interior doors lead to the collections storage area, both on the southeast wall. One is a single metal-panel door, and the other is a standard-sized, rolling overhead, metal garage door. A double-wide door frame separates the main collections storage area from a smaller area housing field equipment and supplies.

Very few renovations have been done in the collections storage area itself. However, the interior of the building was renovated in 1986–1987 when walls were constructed to form offices and

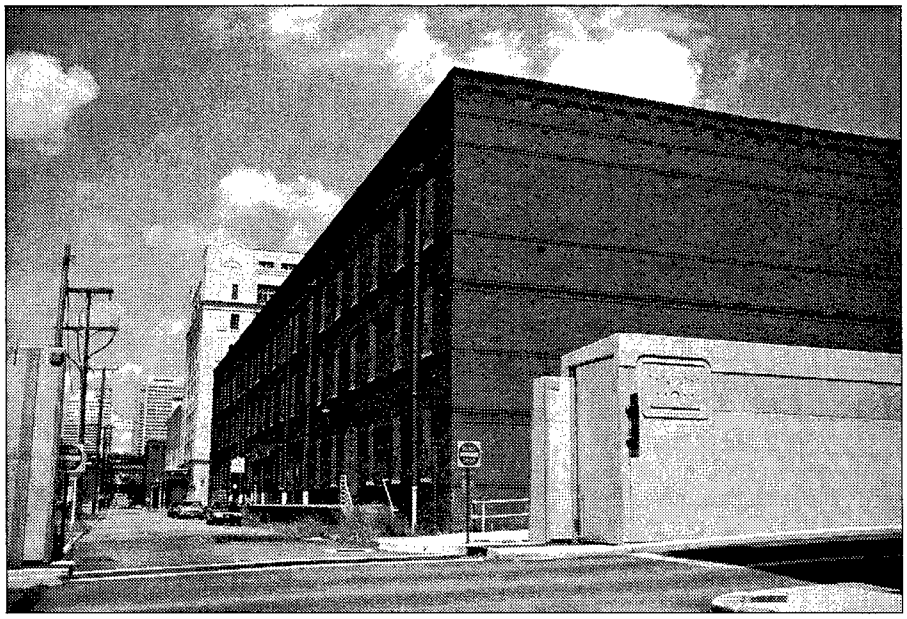

Figure 100. Exterior view of Storage Location 1, the Extra Attic building, used by VDHR.

partitions for individual storage areas. The electrical system also was upgraded and plumbing was updated to include a sprinkler system. The overhead pipes for the sprinkler system are not directly over the collections, but rather extend down the centers of the aisles. The use of a dry-pipe sprinkler system further limits the threat of water damage. The collections storage area is approximately 70 percent filled. Staff members feel that adequate space is available for storage of artifact collections at this time, but note that the trend is toward receiving more collections from contracting firms and colleges that no longer have room to store them. This facility is structurally sound and has ample floor space to serve as a collections storage facility. However, several rehabilitative measures need to be taken if it is to remain a long-term curation repository.

Environmental Controls

Temperature is controlled in certain parts of the facility (e.g., office space) by a central air-conditioning system. However, there are no temperature controls in the artifact collections storage area, and staff members say that the temperature fluctuates approximately 45° F throughout the year. Humidity is not controlled in the facility as a whole, but is monitored in the collections storage area by a hygrothermograph. Staff members maintain that there is minimal fluctuation in humidity on a daily basis, and that humidity usually remains between 50–60 percent year round. There are no dust filters on the air-conditioning system, and dust is evident on box lids. Lighting is provided by uncovered fluorescent tubes without UV filters. The facility as a whole is maintained by the building manager, but the collections storage area is kept neat by curatorial staff on an as-needed basis.

Pest Management

No integrated pest-management program is in place at this facility. However, bait boxes are randomly placed throughout the building, most frequently in the common hallway. The assessment team was informed that insect infestation has never been a problem in the collections storage area.

Security

A building manager is stationed at the Extra Attic facility eight hours a day, five days a week, to oversee activity. If staff members wish to enter the building off-hours, they must press their personal code into an electric keypad that records who enters and exits and the times these

events take place. Surveillance cameras are placed strategically throughout the facility; one is located in the stairwell outside the collections storage area. Exterior doors to the facility have both key and dead bolt locks. The two exterior overhead rolling garage doors located at the first floor loading dock operate by means of electric motors. These doors can only be opened from the inside. The interior metal-panel door to the collections storage area has a key lock, while the smaller interior overhead rolling garage door is secured with a padlock. The walls containing the interior overhead garage doors and those separating portions of each client's storage area do not fully extend to the ceiling, and thus pose a security risk. Approximately 4 feet of space exists between the tops of these walls and the ceiling. This space is covered with wire mesh, but this measure will not prevent unauthorized access.

Fire Detection and Suppression

Manual fire alarms are located throughout the facility. There are four fire extinguishers on each floor, including one located in the door frame separating the collections storage area from the smaller area housing field equipment and supplies. A dry-pipe sprinkler system is also in place for fire suppression.

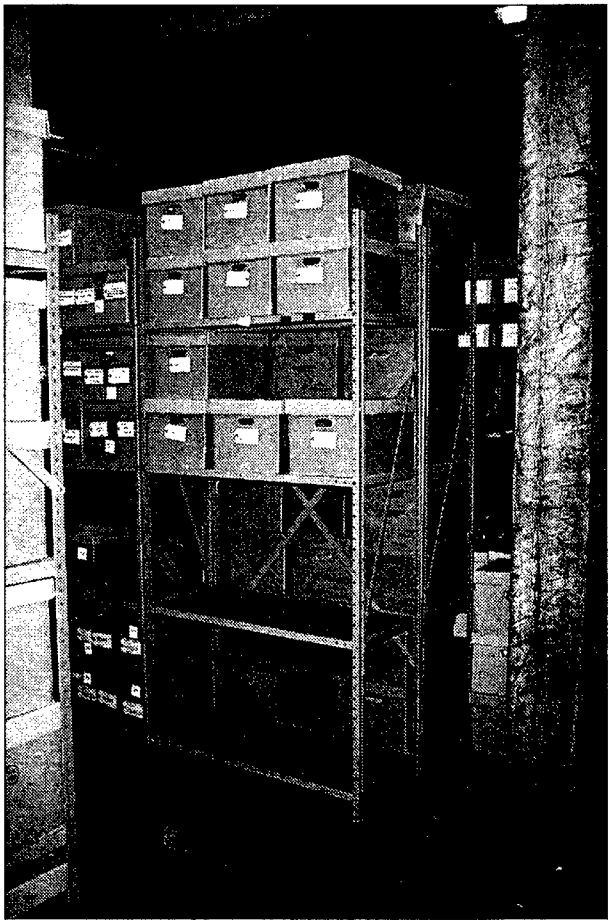

Figure 101. Metal shelving units, with boxes stacked two high, are used in Storage Location 1 for collections storage units.

Artifact Storage

Storage Units

Artifact storage units in Storage Location 1 consist of open, enameled-metal shelving units that measure 3.5 × 1.5 × 7 feet (w × d × h) (Figure 101). Shelving units are numbered consecutively with adhesive tags attached to the top shelf of each unit. Artifact boxes are stacked two high on the shelves.

Primary Containers

Eighteen percent of the primary containers housing military collections at VDHR are acid-free Hollinger boxes; the other 82 percent are acidic-cardboard boxes with telescoping lids and a volume of 1.1 ft^3. Boxes are either labeled directly or with manila tags stapled or taped to the fronts of the containers. Information is written in marker and includes site number, provenience, and box number. Collections are arranged alphabetically by county.

Secondary Containers

Several types of secondary containers house military collections (Table 42). Most (92%) consist of zip-lock, 2- and 4-mil polyethylene bags. All secondary containers have been labeled directly with marker. Many secondary containers also have acidic-paper tags inserted with the artifacts. Label information on the secondary containers most often consists of site number, but catalog number, site number, site name, provenience, date of recovery, and name of recorder are sometimes also included.

Table 42. Summary, by Volume, of Secondary Containers Used for Military Collections at VDHR

Container Type	%
Archival zip-lock bags	92
Paper bags	5
Plastic trash bags	1
Nonarchival plastic sandwich bags	1
Small acid-free-cardboard boxes	1
Total	100

Laboratory Processing and Labeling

All of the artifacts have been cleaned. Thirteen percent have been directly labeled with site numbers using india ink and 92 percent have been sorted by provenience and/or material class within provenience.

Human Skeletal Remains

No known human skeletal remains associated with military collections are stored at VDHR.

Records Storage

There are no records associated with archaeological collections from military installations in the project stored in Storage Location 1. Refer to assessments of Storage Locations 2 and 3 for discussions of records storage at VDHR.

Assessment of Storage Location 2: Morrison Row Offices

This multistory 8,000-ft^2 building (Figure 102) includes offices, records study/records storage areas, rest rooms, and elevators. There are three floors above grade, and one below grade that includes a 216-ft^2 records study/records storage area which contains the site files and field records. The 225-ft^2 photographic archives room is also located on the bottom floor.

Structural Adequacy

The VDHR offices were constructed in the 1850s as private townhouses used by individuals involved in politics and government. There are two collections storage areas within the Morrison Row offices: a records storage area and a photographic archives room. Both areas are located in the basement of one of these townhouses.

Internal renovations of the repository took place four years ago and included lowering the ceilings, adding several new walls, installing an elevator, and upgrading the plumbing and electrical systems. The foundation is brick, and the roof covering is composed of built-up asphalt which has been replaced over the years. Exterior walls are constructed of brick overlayed with stucco. Interior walls in the repository consist both of plaster and Sheetrock, the newer walls being Sheetrock. A wood-framed door with an etched glass panel is located in the front of the building (northwest).

Collections Storage Area 1: Records Storage Area

In the records storage area, the floor is covered with tile, and there is a suspended acoustical ceiling. There are two windows, each measuring approximately 4 × 6 feet, located on the southeast wall. Both windows are equipped with venetian blinds. There are two interior wood-panel doors located on the northwest and southeast walls. Both doors exit into interior hallways. Collections Storage Area 1 is presently at approximately 60 percent storage capacity.

Collections Storage Area 2: Photographic Archives Room

In the photographic archives room, the ceiling is concrete and plaster, and the windows are wood framed. The room has two south-facing windows, each measuring 3 × 5 feet; one is fitted with a window air-conditioning unit. The windows are equipped with pull-down shades. There is one wood-panel door leading to the repository, and it does not have a lock. Collections Storage Area 2 is filled to approximately 70 percent capacity.

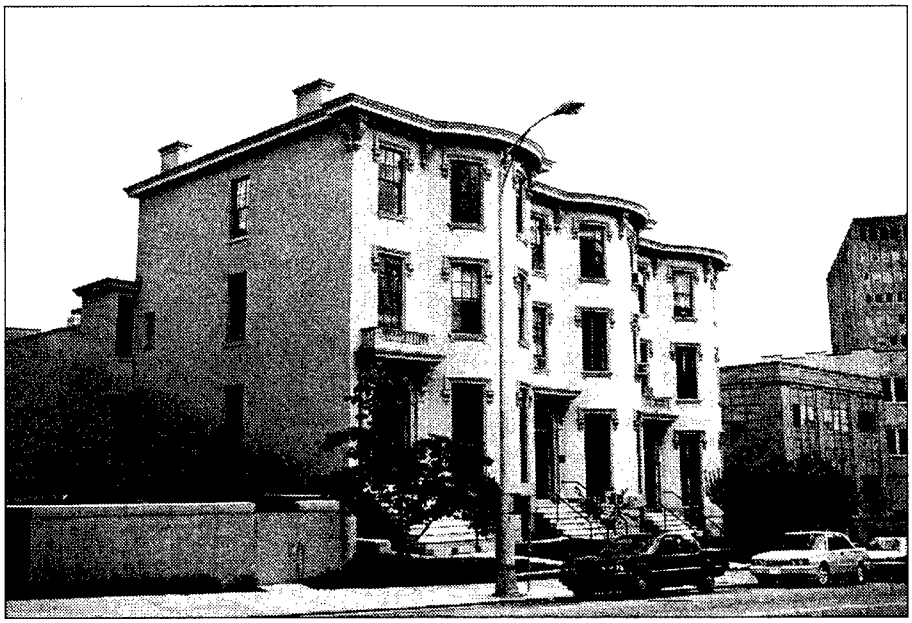

Figure 102. Exterior view of Storage Location 2, the Morrison Row offices.

Environmental Controls

Central air-conditioning and forced-air heat serve as temperature controls in the Morrison Row office facility and collections storage areas. Temperature and humidity are neither monitored nor controlled, but staff members contend that temperatures range between 68–72° F, and humidity stays near 40 percent. Standard furnace filters serve as dust filters for the facility. Fluorescent lights, covered with plastic shields that do not protect against harmful UV rays, and natural light through the windows illuminate the collections storage areas. Both the facility and the collections storage areas are cleaned on a daily basis by a state janitorial service. Physical building maintenance is under the province of the grounds crew.

Pest Management

There is no integrated pest-management program for this facility, but no evidence of pest infestation was noticed during the inspection by the assessment team. Precautions are taken on an as-needed basis.

Security

Security measures in the Morrison Row offices include motion detectors, simple window locks, controlled access, and key locks on exterior doors to the facility and on interior doors to the records storage area. There is no lock on the door to the photographic archives area.

Fire Detection and Suppression

The fire-detection system in the facility consists of manual fire alarms and an electrical control panel that monitors sensors throughout the building. Fire-suppression methods include fire extinguishers and a sprinkler system located throughout the facility. There is no fire extinguisher in Collections Storage Area 1, the records storage area, but there is one in the hallway outside it. The same is true for Collections Storage Area 2.

Artifact Storage

There are no artifacts from archaeological collections from military installations in the project area stored in Storage Location 2. Refer to the assessment of Storage Location 1 for a discussion of artifact storage at VDHR.

Human Skeletal Remains

No known human skeletal remains associated with military collections are stored at VDHR.

Records Storage

There is approximately 0.6 linear foot (6.75 linear inches) of records associated with military collections stored at VDHR. Most records (6.5 linear inches) are stored in the Morrison Row offices, but there is 0.25 linear inch housed in Storage Location 3, the aluminum building. For a summary of the major types of documentation associated with collections, refer to Table 41.

Records at VDHR are arranged by two filing systems: field notes files and the county files. The field notes files contain records deposited by researchers upon completion of fieldwork. The county files include artifact inventories generated by VDHR for sites for which VDHR is curating artifacts. Refer to Table 43 for a breakdown of paper records by installation and filing system. All photographic records, maps and oversized documents, and draft reports are housed with the paper records stored in the field notes files.

In addition to these records, VDHR maintains the site files for the state of Virginia and the reports generated by all archaeological work in the state, including site forms for all known sites located on military installations. The site files are stored in the Morrison Row records storage area. Reports generated from all archaeological work performed under contract with military installations in the state of Virginia are filed in VDHR's report library.

Storage Location 2 houses the field notes files, the state site files, and the project report library.

Paper Records

A total of 4.75 linear inches of paper records are stored at Storage Location 2. All are in Collections Storage Area 1 in enameled-metal, legal-sized file cabinets measuring 1.5 × 2.2 × 5.1 feet (w × d × h). The records are organized by site number within county (Figure 103). File drawers are labeled with acidic-paper labels in metal tag holders. Label information is typed and includes file system name (e.g., field notes files, state site files) and county. Secondary containers housing field notes files consist of acidic manila file folders that are directly labeled with pen or marker. Label information includes county name and site number. Acidic, expandable file folders hold the state site files. Information typed on their adhesive labels include county and site number.

Table 43. Presence or Absence of Paper Records at VDHR, by Installation

Installation	Field Notes Files	County Files
Fort Belvoir	x	
Fort Eustis	x	x
Fort A. P. Hill	x	x
Fort Lee	x	x
Fort Story		x

Paper records housed in this storage location include administrative records, excavation and survey records, field notes, analysis records, state site forms, small-scale site maps, and draft reports. Records have not been systematically duplicated, and contaminants such as staples and paper clips are present.

Photographic Records

There is a total of 1.5 linear inches of photographic records relating to military collections stored at VDHR (see Table 41). A portion (1.25 linear inches) of this total is stored with the paper records in Collections Storage Area 1. These photographic records include black-and-white prints, negatives, and contact sheets for Fort Belvoir and Fort Lee. The remainder of photographic records are stored in Collections Storage Area 2, the photographic archives room. Storage units consist of two 18-x-36-x-78-inch (w-x-d-x-h) metal cabinets with double locking doors (Figure 104). Both cabinets are set on 2-x-4-inch wood risers, raising them off the floor.

In Collections Storage Area 2, primary containers consist of red, plastic three-ring binders and brown, acidic pressed-fiber, three-ring binders. Each binder is labeled on an tag attached by tape with the first letter of the county or with the

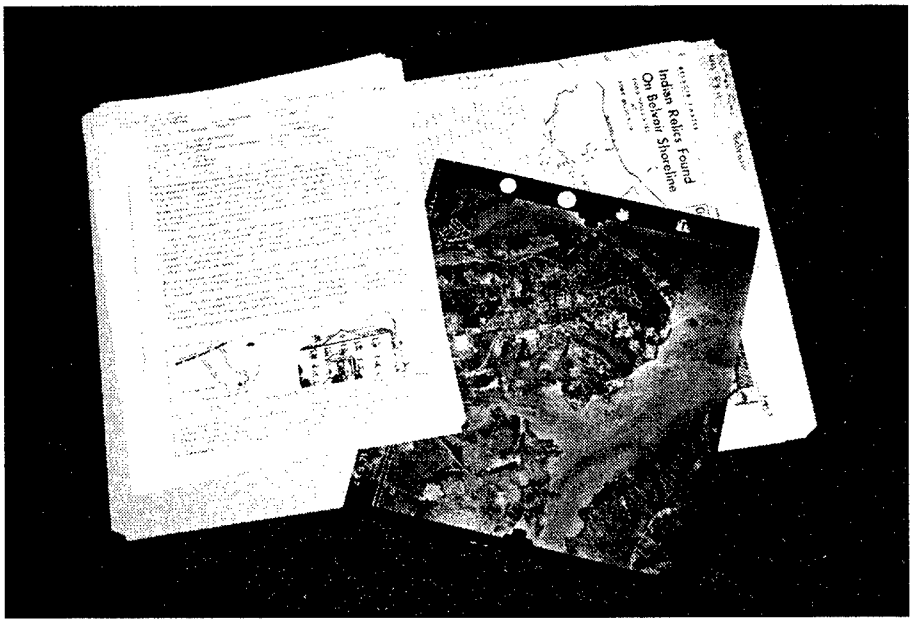

Figure 103. Associated documentation regarding Fort Belvoir is on file at VDHR.

county code. Secondary containers are a mixture of archival and nonarchival photo, slide, and negative plastic sleeves. Photographic records store in Collections Storage Area 2 include a small amount of slides, negatives, and contact sheets (0.25 linear inch total) (see Table 41). Negatives and contact sheets are unlabeled, but slides are labeled directly, in marker, with site number.

Project Reports

Final project reports are stored in the report library in nonarchival magazine holders on enameled-metal shelving units. Each shelf measures approximately 2 × 1.5 × 7.5 feet (w × d × h). A small amount—0.25 linear inch—of report records from Fort Lee is stored in the field notes files with the paper records in Collections Storage Area 1.

Assessment of Storage Location 3: Aluminum Building

This three-story facility encompasses approximately 10,800 ft^2 and includes offices, rest rooms, and a 216-ft^2 records storage/artifact

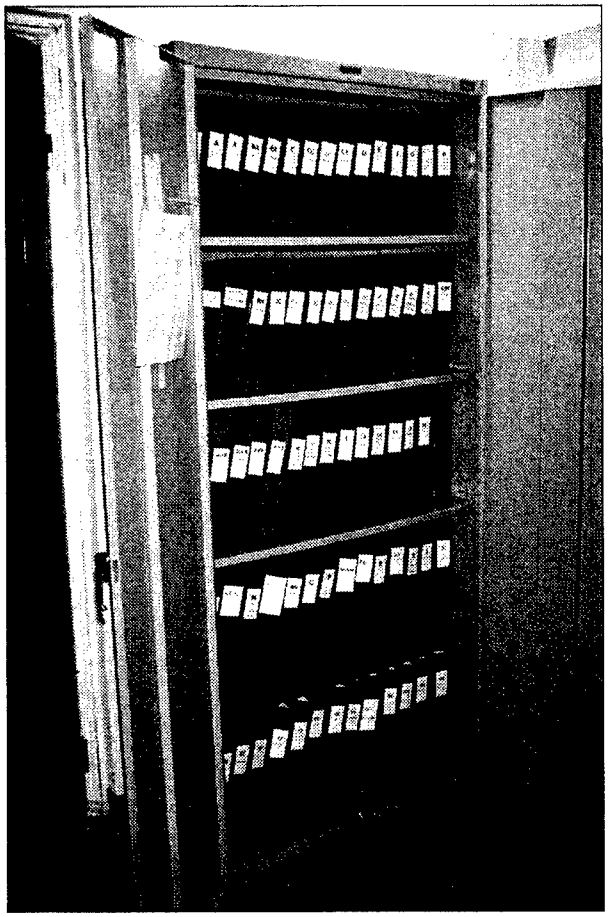

Figure 104. Enclosed, metal shelving unit used for the storage of slides in Storage Location 2.

processing laboratory (Figure 105). The county files are stored in this building.

Structural Adequacy

This facility is part of the VDHR office complex and is located adjacent to, and connected by a breezeway with, the offices in Storage Location 2. The facility was constructed in 1910 and has been used as a state office building for many years. The assessment team was told that the aluminum shell makes this a collapsible facility. (The building was moved from another location in Richmond in the 1930s or 1940s.) Numerous internal renovations have been done over the years, most involving office space. Two of the three floors of this structure are above grade, and one is partially below grade. The records storage area/artifact processing lab is located on the middle floor. The facility has a concrete foundation, and a flat, built-up asphalt roof. The floor in the records storage area is concrete covered with carpet, and the ceiling consists of suspended acoustical tiles. Both interior and exterior walls on the lower floor are constructed of concrete. The exterior walls of the upper two floors are made of aluminum and the interior walls consist of acoustical tile. Many windows exist in this multistory building, with six in the records storage area alone. These wood-framed windows are located on the south wall, and measure approximately 3 × 4 feet (w × h). They are equipped with blinds, although they were not drawn at the time of the assessment team visit. Two interior wood-panel doors are present, one leading into a hallway on the north wall, and one to an office on the west wall.

Environmental Controls

Temperature in this facility is controlled by a central air-conditioning and heating system. Supplemental window air conditioners and baseboard heat regulates temperature in the records storage/artifact processing area. Humidity is neither monitored nor controlled. Standard filters on the furnace and air-conditioning systems serve as dust filters for the facility. Natural light and fluorescent tubes covered with plastic shields that do not shield against UV rays provide the

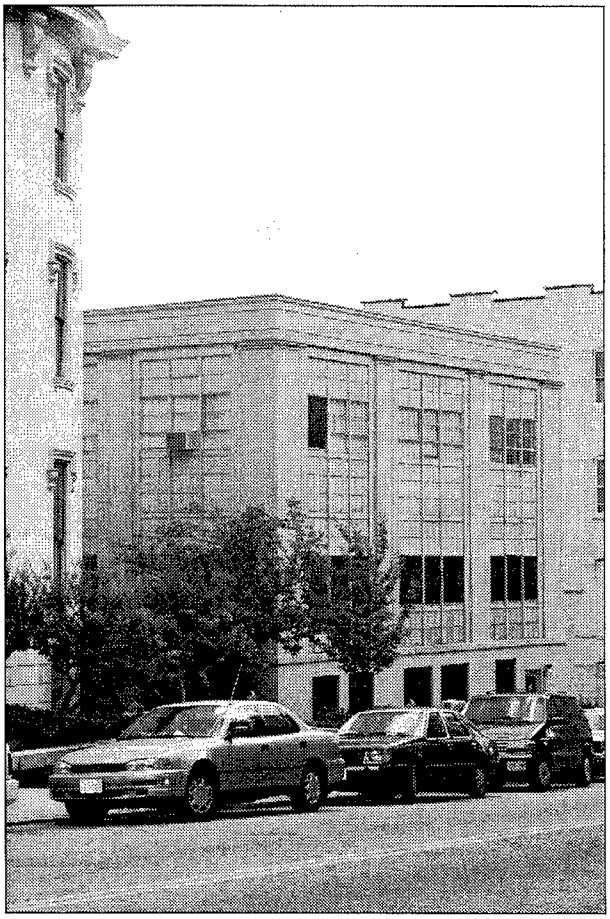

Figure 105. Exterior view of Storage Location 3, the aluminum building.

light. Physical building maintenance is provided by the grounds crew on an as-needed basis, but daily cleaning of the building is carried out by a state janitorial service.

Pest Management

Although no evidence of pest infestation was noted during the inspection by the assessment team, no integrated pest-management program is present at this facility. Precautions are taken on an as-needed basis.

Security

Security measures at Storage Location 3 include dead bolt locks on exterior doors, key locks on interior doors, and simple window locks on windows (most windows are painted shut). Purses

have been stolen in the past; however, it is unclear whether these thefts involve unauthorized entry into the facility.

Fire Detection and Suppression

Smoke detectors are the only means of fire detection in this storage location. There is no fire-suppression method in place.

Artifact Storage

There are no artifacts from archaeological collections from military installations in the project area stored in Storage Location 2. Refer to the assessment of Storage Location 1 for a discussion of artifact storage at VDHR.

Human Skeletal Remains

No known human skeletal remains associated with military collections are stored at VDHR.

Records Storage

The county site files and the York County survey records are stored at this storage location.

Paper Records

There is approximately 0.25 linear inch of county site files among the paper records. The county site files include artifact inventories generated by VDHR for sites for which VDHR is curating artifacts. County files are housed in vinyl three-ring binders (Figure 106) which are stored on top of several standard-sized, enameled-metal lane cases located against the north wall of the records storage/artifact processing room. The binder labels are in metal label holders on the spines of the binders. Typed label information includes county name. A single binder may represent several counties, with sections separated by yellow, acidic dividers with plastic label tabs. Divider label information consists of county name.

Assessment of Storage Locations 1–3

Collections-Management Standards

Registration Procedures

Accession Files

Accession files are not used at VDHR.

Location Identification

The locations of the collections within the repository are not identified in any paper files. However, the location is recorded within a dBASE inventory program for the boxed collections.

Cross-Indexed Files

Files are not cross-indexed.

Published Guide to Collections

There is no published guide to the collections other than the project reports.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is employed.

Computerized Database Management

A dBASE collections inventory system is used. Backup copies are created on disk each time the system is used. Backup copies are not stored in a separate, secure location, however, but rather in a different location within the same complex.

Written Policies and Procedures

Minimum Standards for Acceptance

VDHR requires that all incoming artifacts be processed, then packaged in acid-free boxes and zip-lock polyethylene bags. Although VDHR recommends that duplicate copies of all associated documentation be produced and included with the artifacts, this suggestion has not been followed by everyone depositing collections.

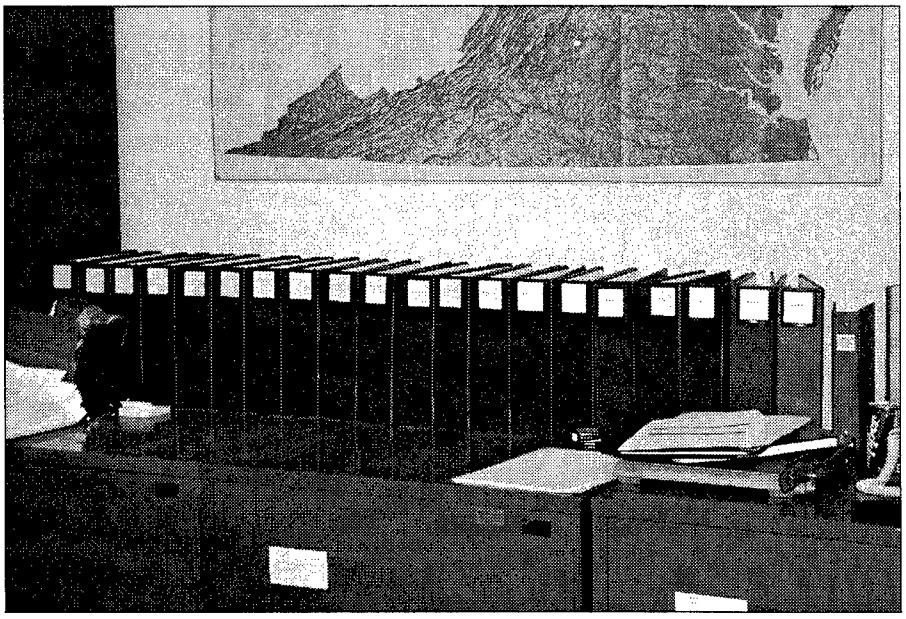

Figure 106. Artifact inventories are stored in three-ring binders arranged on top of metal file cabinets in the aluminum building.

Curation Policy

There is a comprehensive plan for curation that includes receipt of materials, processing of materials, use of materials, and future preservation.

Records-Management Policy

The archivist follows department-wide guidelines for the management of associated records.

Field-Curation Procedures

These guidelines are included in the document that details the minimum standards for acceptance of collections.

Loan Policy

Loans are granted to qualified institutions. A standard loan form must be completed. Loan extensions may be granted in some situations.

Deaccessioning Policy

There is no deaccessioning policy.

Inventory Policy

There is no inventory policy.

Latest Collection Inventory

The collections were last inventoried approximately 3–4 months ago. As collections arrive at VDHR, a form is filled out containing information that will eventually be entered into the collections-inventory database program.

Curation Personnel

Beth Acuff, the full-time curator for archaeological collections, employs two salaried assistants: Mr. Keith Egloff and Ms. Melba Meyers. Two hourly people, one contractual employee, and various work-study students, interns, and volunteers aid in the curation of archaeological collections.

Curation Financing

Curation is financed through several methods: contractors are charged a one-time curation fee; money is obtained through general state funds; and funds are acquired through conservation contracts. Staff members think that it is important to address the backlog of inadequately cataloged collections, but believe that current funding is insufficient to do so.

Access to Collections

Access to collections is controlled by Ms. Acuff and Mr. Egloff and anyone wishing to view collections must first contact these individuals. Researchers are given access to VDHR collections, usually under supervision.

Future Plans

Overall, curatorial personnel feel that curation of existing collections has a higher priority than the recovery of archaeological collections. The maintenance of collections and their use for educational purposes are viewed as the primary responsibilities associated with the collections. The governor of Virginia created a "strike force" to request position papers from different state agencies stating their needs. VDHR submitted position papers for its underwater archaeology program, for archives management, and for artifact collections management. If the position papers for archives and artifact collections management are accepted, VDHR will receive funding and will be able to address their curation needs.

Comments

1. None of the facilities have proper environmental controls.

2. The ground-floor windows in the records storage area of Storage Location 2 represent both a security risk and—because they allow in damaging UV rays—an environmental risk.

3. The floor load capacity in the collections storage area of Storage Location 1 is 200 pounds per square foot, making the building structurally well equipped to house archaeological collections.

4. Despite the fact that no integrated pest-management program exists, no pest infestations were noticed by the assessment team in any of the storage locations.

5. There is no adequate fire-detection or -suppression system in Storage Location 3.

6. Most of the artifact primary containers and the majority of the secondary containers are non-archival quality.

7. The different filing systems for associated documentation are a source of confusion for users.

8. The associated records have not been systematically duplicated.

9. The majority (87%) of the artifacts still need to be labeled.

Recommendations

1. Install an HVAC system in the artifact storage area of Storage Location 1. If that is not feasible, install central air-conditioning, a dust-filtration system, and a commercial dehumidifier. Temperature and humidity should be monitored in Storage Locations 2 and 3 with sling psychrometers and/or hygrothermographs.

2. The ground-floor windows in Storage Location 2's records storage area present a security risk. These windows should either be sealed shut or interior metal bars should be installed to prevent unauthorized access.

3. An integrated program for pest management, including both monitoring and control, should be instituted at each facility.

4. The fire-detection and -suppression systems in Storage Location 3 should be upgraded to include manual fire alarms, multiple fire extinguishers on each floor, and if possible, a sprinkler system.

5. The filing systems for associated records should be consolidated, and/or finding aids for each system should be generated and made available for use.

6. Associated records should be duplicated on acid-free paper or microfilm, stored in acid-free folders, and a copy should be stored at a separate, secure location.

7. All unlabeled artifacts should be labeled with india ink to prevent loss of provenience.

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College of William and Mary Center for Archaeological Research

Williamsburg, Virginia

Repository Summary

Volume of Artifact Collections: 9.7 ft^3

Compliance Status: Collections are archivally curated in zip-lock plastic bags within acid-free boxes. However, the wood shelves used as storage units should be replaced with enameled-metal shelves.

Linear Feet of Records: 0.8 linear foot (9.5 linear inches)

Compliance Status: The photographic records are archivally curated. Paper records require complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Human Skeletal Remains: None

Status of Curation Funding: Curation is financed through cultural resource management contracts. Overall, staff members feel that financing is adequate.

Date of Visit: May 3, 1995

Points of Contact: Don Linebaugh and Dennis Blanton

Approximately 9.7 ft^3 of artifacts (Table 44) and 9.5 linear inches of associated records from military installations in Virginia are currently stored at WMCAR. Refer to Table 45 for a breakdown of material classes present in these collections. WMCAR does not view itself as a long-term collections repository, but rather as a temporary holding facility until collections can be transferred to VDHR. General repository information was collected during a July 21, 1994, visit for the Atlantic Navy project (see Table 1).

Assessment

The offices of WMCAR are in a two-story house located directly across the street from the College of William and Mary (CWM) (Figure 107). The collections and associated records are housed in the basement of a four-and-one-half-story dormitory building on the CWM campus. The basement facility includes six major areas encompassing approximately 10,000 ft^2, three of which contain collections or records pertinent to the military installations in the project area. There is a separate field equipment storage room, a drafting/report publication area, an archives storage area, an artifact storage area, a

Table 44. Summary of Military Collections, by Installation, at WMCAR

Installation	Volume of Artifacts (ft^3)
Fort Eustis	1.4
Fort A. P. Hill	1.4
Fort Lee	1.4
Radford	5.5
Total	9.7

Table 45. Summary, by Volume, of Material Classes Present in Military Collections at WMCAR

Material Class	%
Prehistoric	
Lithics	27
Ceramics	20
Faunal remains	11
Shell	9
Flotation	5
^{14}C samples	1
Historical-period	
Glass	16
Metal	6
Brick	4
Ceramics	1
Total	100

photograph processing and large-scale map storage area, and a laboratory and collections processing area. Of interest to the assessment team was the archives storage area (Room 51), measuring approximately 200 ft^2; the photograph processing and oversized-map storage area (Room 50), encompassing approximately 100 ft^2; and the artifact storage area (Room 54), measuring approximately 600 ft^2.

Structural Adequacy

This facility was constructed in the late 1930s as a dormitory, and the three floors above grade are still being used for that purpose today. The building has a concrete foundation (covered with tile in the storage areas), concrete block walls below grade, and concrete block walls with a brick facade above grade. The roof consists of slate tiles and is original to the building. Interior walls in the basement are also concrete block, and the ceiling is poured concrete. Plumbing and electrical systems have been updated at some point in the past, and the heating system has been upgraded within the last year. There are overhead pipes in all rooms, but there have never been any problems with leaking.

The only differences in structural adequacy between the three collections storage areas are the number of doors and windows in each of the rooms. The archives storage area, Room 51 (Collections Storage Area 1), contains one east-facing window at ground level. The window measures approximately 2 x 3 feet, has a wood frame, and is covered with plywood on the interior. The room has two interior wood-panel doors exist. The west-facing door exits into the hallway and the south-facing door separates the photograph storage from paper records storage.

There is one interior, west-facing, wood-panel door to the photograph processing and oversized-map storage area, Room 50 (Collections Storage Area 2). It also exits into the hallway. There are no windows in this room.

The artifact storage area, Room 54 (Collections Storage Area 3), has two interior, east-facing wood-panel doors. Both lead into the hallway. Four windows with wood frames measuring approximately 3 x 3.5 feet are present on the west wall of the room (Figure 108). All are at ground level and none have shades.

Collections Storage Area 1 is at approximately 30 percent capacity in terms of records storage. Collections Storage Area 2 has room to expand, only being filled to approximately 5 percent capacity. Collections Storage Area 3, however, is filled to approximately 80 percent. Although this building is structurally sound and functions well as a temporary collections and archives storage facility, it will need further work if it is to continue to house archaeological collections and associated records.

Figure 107. Exterior view of WMCAR. The basement of Camm Hall, a student dormitory, is used for collections storage.

Environmental Controls

Climatic conditions and controls are the same in each of the three collections storage areas: Central air-conditioning and a gas-fired hot-water boiler control the temperature. A digital "Thermo-Hygro" reader monitors the humidity in Collections Storage Area 3, while a commercial dehumidifier attempts to control humidity levels. Only in Collections Storage Area 3 had humidity fluctuations caused paint to peel off the ceiling. At the time of the assessment, temperature and humidity readings in Collections Storage Area 3 were 73° F and 62 percent relative humidity. Fluorescent tubes (that do not protect against UV rays) light Collections Storage Areas 1 and 3; incandescent bulbs illuminate Collections Storage Area 2. Standard furnace and air-conditioning filters are the only preventative measures against dust. The storage areas are cleaned daily by the janitorial staff of CWM.

Pest Management

There is no integrated pest-management program at this facility. However, the college contracts out for an annual inspection and treatment if needed. At the time of the visit by the assessment team, there was no evidence of pest infestation.

Security

The exterior door to the facility is secured by both key and dead bolt locks; access to the basement area is controlled. Although the three floors above WMCAR function as dormitories, there is no inside access to the basement area from the floors above. The single window in Collections Storage Area 1 has a window lock and is also covered with plywood on the interior. The doors separating the three collections storage areas from the hallway are all secured with key locks. The four double-hung wood sash windows in Collections Storage Area 3 are at ground level. They are multipaned, contain window locks, and appear to be painted shut, but there are no interior or exterior security bars. Collections are stored in close proximity to these windows, posing a security risk. Unauthorized entry occurred between 1990 and 1991, when a window air-conditioning unit in the collections processing area was removed and computer equipment was stolen. When the heating and cooling systems in the facility were renovated a few years ago, all of the window air-conditioning units were removed for security purposes.

Figure 108. View of Collections Storage Area 3. Note the close proximity of the ground-level window to the collections storage units.

Fire Detection and Suppression

Smoke detectors wired into the fire department and manual fire alarms located in the hallway outside the three collections storage areas represent the only means of fire detection in the facility. The assessment team also noted one fire extinguisher in the hall outside the three collections storage areas. This, however, is not adequate fire protection for this repository.

Artifact Storage

Storage Units

Boxed artifact collections are stored on unlabeled, varnished, wood shelving units in Collections Storage Area 3, each measuring approximately 4 × 0.8 × 6.7 feet (w × d × h). There are six shelves per unit and usually two boxes per shelf. There is no overstacking because boxes can be stacked only one high. Several of the shelves tend to lean, though, and need to be braced.

Primary Containers

All primary containers are acid-free Hollinger boxes with a 1.3-ft^3 storage capacity. The boxes are constructed by folding, although one corner is glued. They have telescoping lids and built-in handles. Labels are computer-printed on acid-free paper and taped to the fronts of the boxes. Label information includes project name, box content, site number, date, and box number.

Secondary Containers

All of the artifacts are curated in small, zip-lock, 2-mil polyethylene bags nested within larger ones (Figure 109). The larger, exterior bags are not labeled. There is, however, a preprinted label on acid-free paper inserted inside the smaller, interior bags. Label information is written in marker and consists of project name, site number, bag number, provenience, date, comments, and excavator's initials.

Laboratory Processing and Labeling

All of the artifacts have been cleaned and sorted by material class or material class within provenience. Only about 5 percent have been labeled directly on the surface in ink.

Human Skeletal Remains

No human skeletal remains are included in the military collections housed at WMCAR.

Records Storage

Approximately 9.5 linear inches of documentation associated with military installations are stored at WMCAR. Records are stored in Collections Storage Areas 1 and 2. For a summary of the major classes of documentation, refer to Table 46.

Figure 109. Zip-lock plastic bags inside cardboard boxes house artifacts at WMCAR.

Table 46. Summary of Documentation (in Linear Inches), by Installation, at WMCAR

Installation	Total Documentation (linear inches)
Fort A. P. Hill	1.0
Fort Eustis	2.0
Fort Lee	1.5
Radford	5.0
Total	9.5

Paper Records

Original paper records, which are arranged by project number within year, are stored in several unlocked, letter-sized, enameled-metal file cabinets located against the north wall of Collections Storage Area 1. The dimensions of a single file cabinet are 1.2 × 2.3 × 4.7 feet (w × d × h). Metal tag holders on the fronts of the file drawers contain paper tags with computer-printed label information consisting of project numbers. A three-ring binder located on top of one of the file cabinets contains an archives index. Records are cross referenced in this index by three methods: (a) project number and name, (b) city and county, and (c) agency and client name. Acidic manila file folders with adhesive labels are used as secondary containers for the paper records. Label information is typed and includes project number and name. Each project folder contains a sheet listing the contents of the specific folder. The records are in good shape, but contain contaminants such as staples. Types of paper records include administrative, background, survey, excavation, and analysis records. These records have not been duplicated.

Photographic Records

The photographic records are stored in a small room (~6 × 4 feet [l × w]) off the south end of Collections Storage Area 1. Included in the records are 3.5-×-5-inch black-and-white prints, slides, and negatives. Photographic records are arranged by year and identification number. A photographic record index overview lists the types of photographic records available for each project and their identification numbers.

The prints are housed in a series of six enameled-metal file-drawer units stacked on top of each other. Each unit measures 1.3 × 1.6 × 0.6 feet (w × d × h), making the total unit 3.6 feet high. A metal tag holder on each drawer has a computer-printed tag listing the identification numbers of the photograph contained within the drawer. The photographs are curated in 5.5-×-5-inch, acid-free folders with adhesive labels. Label information is typed and includes

project name, year, and photo numbers (e.g., 92-1042 to 1044). The photograph number is written in pen on the back of each photograph.

Slides are stored in a series of 10 enameled-metal file-drawer units stacked on top of each other (Figure 110). Each unit measures 1 × 1.3 × 0.4 feet (w × d × h), making the total height of the unit 4 feet. Drawers have metal tag holders with computer-printed paper tags that list the range of slides included in each drawer. Within the unit, slides are stored in their original cardboard slide boxes. These boxes have adhesive labels listing slide numbers. There is also movement toward transferring slides to archival sleeves within three-ring binders to facilitate viewing. The slides themselves are directly labeled with slide number in pen.

Negatives are stored in archival sleeves within plastic three-ring binders. Each plastic binder contains an adhesive vinyl label produced by a hand-held label maker. Label information includes project year. Each negative sleeve is labeled in marker with date, project name, and project number. The binders are housed on painted shelves built against the east wall of the room.

Figure 110. Slide collections are arranged in metal file cabinets in Collections Storage Area 1, Room 51, the archives storage area.

Project Reports

Camera-ready versions of final reports are stored in acidic manila file folders within legal-sized file cabinets in Collections Storage Area 1. File folders are arranged alphabetically by project name, which is typed on an adhesive file folder label.

Maps and Oversized Documents

Materials stored in Collections Storage Area 2 include oversized site maps, maps drafted on Mylar and a log arranged by year and drawing number that provides a description of each drawing. The oversized-maps and drawings are stored in a five-drawer wood map flat measuring 4.5 × 3.5 × 1.3 feet (w × d × h), that is located on top of a large wood table. A photocopy stand sits on top of the map flat. Individual map drawers are arranged alphabetically. Within the map drawers, the Mylar drawings are contained in large, acid-free folders. An adhesive label with project name written in black marker is stuck to the outside of each large folder. All of the maps are in good condition.

Collections-Management Standards

Registration Procedures

Accession Files

When collections and records arrive at WMCAR they are assigned a number that includes the year and project number (e.g., 92-1046).

Location Identification

Locations are provided for the collections storage area, but not for the location of the record or artifact collection within the storage area.

Cross-Indexed Files

The files are indexed by project number, and this can be cross-indexed between the project, collection, and photograph files.

Published Guide to Collections

Except for the project reports, a published guide to the collections has not produced.

Site-Record Administration

The Smithsonian River Basin Survey trinomial site-numbering system is employed.

Computerized Database Management

The Paradox database-management program is employed to manage the collections and records. Backups of these records are made each time the program is used, with one disk copy stored at the WMCAR offices, and another in the laboratory.

Written Policies and Procedures

Minimum Standards for Acceptance

WMCAR does not accept collections other than those generated by their own projects.

Curation Policy

Curation information is available, but has not been compiled into a single document. Information regarding the procedures undertaken to accession and organize a collection are described in the text of the final reports.

Records-Management Policy

This information is available, but has not been compiled into a single document. Information regarding the care of associated records is described in the text of the final reports.

Field-Curation Procedures

There is a document that describes how artifacts should be treated in the field.

Loan Policy

A standardized loan form is used that specifies such things as the length of the loan, and how the artifact(s) must be cared for while on loan.

Deaccessioning Policy

There is no written deaccession policy.

Inventory Policy

There is no written inventory policy.

Latest Collection Inventory

Because WMCAR is not a long-term collection repository, a comprehensive inventory has never been carried out. Collections are processed, inventoried, and then sent to a facility that will care for them long term.

Curation Personnel

There are two full-time curatorial staff members. Debbie Davenport, the senior laboratory technician, is the full-time curator of archaeological collections. David Lewes, the senior draftsperson and editor, is responsible for the associated records. Don Linebaugh and Dennis Blanton are the codirectors of WMCAR.

Curation Financing

Curation is funded through monies written into cultural resource management contracts.

Access to Collections

Access to collections is controlled by Mr. Linebaugh, Mr. Blanton, and Ms. Davenport. Anyone wishing access to the collections is required to contact one of them. Researchers wishing to access the collections must first submit a written letter of intent. Collections are not to be viewed without the supervision of the senior laboratory technician.

Future Plans

WMCAR staff members view education, maintenance of collections, and research as the primary responsibilities associated with the collections. There are plans for upgrading the curation program that include slowly replacing the wood shelving units with steel ones, purchasing new cabinets as needed, and eventually installing temperature and humidity controls. Even with these plans, the staff members emphasize that WMCAR is only a temporary stopping place for collections on their way to a final curation repository.

Comments

1. WMCAR is located in a basement surrounded on all sides by concrete, and as a result, is not as susceptible to fire as other facilities. However, adequate fire-detection and -suppression systems are lacking.

2. Although there have been no past episodes of the overhead pipes in the collections storage areas leaking, the steam release valves are located directly above the fluorescent lights, creating a fire hazard.

3. Humidity is monitored with a digital "Thermo-Hygro" reader and partially controlled with a commercial dehumidifier. However, paint in Collections Storage Area 3 is peeling off the ceiling in sheets because of humidity fluctuations.

4. Collections are stored in close proximity to ground-level windows with no shades and only simple locks, creating a security risk.

5. Artifact collections are curated in acid-free boxes and archival-quality zip-lock bags. However, they are stored on varnished wood shelving units which can, over time, emit harmful acids through outgassing. Outgassing increases at higher temperatures and at relative humidity above 80 percent.

6. Associated records are well organized, but only the photographic prints and negatives are archivally preserved. Records have not been duplicated.

7. Although there is no integrated pest-management program in place at the repository, there was no evidence of pest infestation at the time of the assessment.

Recommendations

1. Upgrade the fire-detection and -suppression systems to include smoke alarms and multiple fire extinguishers. If possible, install a sprinkler system.

2. If possible, the electrical lines and light fixtures should be moved out from under the steam pipes and release valves as a further fire-prevention measure.

3. If it is not feasible to install an HVAC system to monitor and control temperature and humidity, an additional commercial dehumidifier should be purchased for the collections storage areas.

4. Collections should not be stored directly in front of the windows. Window coverings (e.g., commercial shades or plywood coverings) should be purchased for the windows in Collections Storage Area 3 to prevent the exposure of collections to damaging UV rays, which can cause box labels to fade. Bars or some other type of deterrent should be placed over the exteriors of the windows as an added security measure.

5. Future plans for WMCAR include replacing the varnished wood shelving units with metal shelving units. This should be a priority and should be done before the acids in the wood shelves destroy the archival containers on them.

6. All paper records should be duplicated on acid-free paper or microfilm and duplicate copies of the photographic records should be produced. A copy of these records should be stored at a separate, secure location. The original associated records should accompany the artifact collections to a long-term curation facility, and copies of these records should remain at WMCAR.

7. A pest-management program that includes monitoring and control should be implemented.

8. Apply adhesive, plastic label holders containing acid-free labels to the fronts of artifact boxes (or adhere small, zip-lock plastic bags). This way, if the label information or box contents changes, the old label can be replaced without damaging the box.

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Findings Summary for Military Installations in Idaho, Maryland, Montana, Virginia, and Wyoming

Thirty-four separate storage locations at 26 installations and repositories in eight different states are known to curate military archaeological collections subject to this project. Each of these facilities were visited by assessment teams. Overall, the assessment teams examined collections recovered on 18 military installations. The assessment teams performed examinations of all known military collections at each location (Table 47). A building evaluation, survey questionnaire, and collections and documentation assessments were also completed for each storage location.

In summary, the following can be concluded.

1. Two of the 34 storage locations housing military collections meet the standards of 36 CFR Part 79. These include Fort Monroe's Casemate Museum (see Chapter 11) and Warren AFB (see Chapter 16).

2. To receive proper care, collections should be brought together into no more than three designated repositories.

3. Twenty-two facilities house military artifact collections. Artifact collections in three of these require complete rehabilitation. The remaining 19 require partial rehabilitation.

4. None of the evaluated facilities practice records care that meets all federal standards for archival preservation. Associated documentation at eight facilities is in very poor condition and requires complete rehabilitation, while records at 16 facilities need partial rehabilitation. Two facilities do not currently curate documentation associated with the military collections stored there.

5. Management controls, and a master collections inventory and database for military collections are deficient to nonexistent and should be improved or created immediately.

Infrastructure Controls

Structures housing military collections can be divided into seven general types (Table 48). Only two of the 34 storage locations have been designed, adapted, or both, to the requirements of a modern curation center. University institutions and state repositories use whatever space they can acquire from their governing bodies to store collections. Contracting agencies—which are only temporary curation repositories—are not adequately equipped to act as long-term curation facilities.

Twenty-two (65%) of the 34 storage locations are regularly cleaned and maintained. Eleven (32%) are cleaned and maintained as needed, resulting in dust-covered boxes and

Table 47. Number of Storage Locations at Repositories Housing Military Collections

Facility	Storage Locations (n)
Aberdeen, MD	1
Warren AFB, Cheyenne, WY	1
Fort A. P. Hill, VA	3
Fort Belvoir, VA	1
Fort Detrick, MD	1
Fort Meade, MD	1
Fort Monroe, VA	1
FCAS, Falls Church, VA	1
FLSHA, Vonore, TN	2
Foster Wheeler, East Orange, NJ	2
GRI, Seattle, WA	1
G&P, Richmond, VA	1
HCAS, Harford County, MD	1
HRA, Trenton, NJ	1
JRIA, Williamsburg, VA	1
Milner, Alexandria, VA	1
MHT, Crownsville, MD	2
MAAR, Williamsburg, VA	1
Goodwin, Frederick, MD	1
SouthArc, Gainesville, FL	1
TAA, Woodstock, VA	1
UDCAR, Newark, DE	1
USACE Baltimore District, MD	2
VCUARC, Richmond, VA	1
VDHR, Richmond, VA	3
WMCAR, Williamsburg, VA	1
Total	34

shelves and, in some cases, the presence of dead insects and rodent feces. Many of the storage locations store extraneous items such as field equipment, hazardous chemicals, and personal items in collections storage areas, which is an unacceptable practice in professional collections-management facilities.

Table 48. Types of Repositories Curating Military Collections

Repository Type	n	%
Contract firm	10	38
Military installation	6	23
State or county curation facility	4	15
University lab or curation facility	3	12
Government agency	1	4
Museum (military)	1	4
Private archaeological society	1	4
Total	26	100

Two (6%) of the 34 storage locations are in compliance with the standards of 36 CFR Part 79 for curating archaeological artifact collections and associated documentation. Twenty others (59%) are in partial compliance with the major standards—proper environmental controls, security, pest management, and fire safety—but 12 storage locations (35%) do not comply with any of the standards. These controls and how well they are met are discussed briefly below and are summarized in Table 49.

A final measure of the care afforded collections can be ascertained by examining the professional staff devoted to collections management. Only five of the nine long-term curation facilities employ full-time personnel for the curation of archaeological collections.

Environmental Controls

Environmental monitoring and adequate environmental control do not exist in five (15%) of the 34 storage locations. Four storage locations employ an HVAC system; however, one of these does not monitor or control humidity. Six (18%) of the storage locations provide environmental controls (HVAC or air-conditioning and heating, and humidity monitoring and control) that meet federal standards. Twenty-six (76%) storage locations have air-conditioning, whereas 27 (79%) have heating. Six (18%), including three locations with HVAC systems, monitor and control humidity (see Table 49).

Table 49. Presence or Absence of Infrastructure Controls at Repositories Housing Military Collections

Repository	Fire Safety	Security	Environ. Controls	HVAC	Pest Mgmt.	36 CFR Part 79 Standards
Aberdeen		x			as needed[b]	
FCAS	x[a]	x			as needed[b]	
Fort Belvoir	x[a]	x		x[c]	reg. control[d]	
Fort Detrick	x[a]				x	
Fort A. P. Hill						
Storage Location 1						
Storage Location 2						
Storage Location 3	x[a]	x			as needed[b]	
FLSHA						
Storage Location 1	x[a]	x	x		reg. control[d]	
Storage Location 2					reg. control[d]	
Fort Meade	x[a]				as needed[b]	
Fort Monroe	x[e]	x	x	x	x	x[e]
Foster Wheeler						
Storage Location 1	x	x	x	x	as needed[b]	
Storage Location 2	x				as needed[b]	
GRI					as needed[b]	
Goodwin	x[a]	x			as needed[b]	
G&P	x	x			as needed[b]	
HCAS	x[a]	x				
HRA	x[a]	x			as needed[b]	
JRIA	x[a]				as needed[b]	
MHT						
Storage Location 1	x				as needed[b]	
Storage Location 2	x				as needed[b]	
MAAR					as needed[b]	
Milner	x		x		as needed[b]	
SouthArc					as needed[b]	
TAA					as needed[b]	
USACE Baltimore District						
Storage Location 1	x					
Storage Location 2					as needed[b]	
UDCAR	x[a]				x	
VCUARC	x				as needed[b]	
VDHR						
Storage Location 1	x	x			as needed[b]	
Storage Location 2	x				as needed[b]	
Storage Location 3					as needed[b]	
Warren AFB	x	x	x	x	x	x
WMCAR	x[a]		x		as needed[b]	

[a]Repository has fire-detection measures, but fire extinguishers are its only fire-suppression equipment. [b]Repository does not have an integrated pest-management program, but controls pests on an as-needed basis. [c]Repository has an HVAC system that does not monitor and control humidity. [d]Repository does not have an integrated pest-management program that includes monitoring, but does maintain a regular control schedule. [e]Repository is authorized by the U.S. Army to not use a sprinkler system for fire suppression because of the brick-and-soil composition of the historic structure.

Security

Thirteen (38%) of the storage locations are equipped with intrusion alarms, thus meeting federal standards for the security of archaeological collections (see Table 49). All of the storage locations are secured with key locks, dead bolt locks, or both; those with windows have simple window locks. Most facilities limit access to the collections. Although there were no documented cases of unauthorized entry linked with loss of military collections, the potential for this exists at several of the storage locations evaluated.

Fire Detection and Suppression

Two (6%) of the 34 storage locations lack any kind of fire-detection or fire-suppression capability, including fire extinguishers (see Table 49). Although 24 storage locations (71%) provide adequate to superb fire detection, only 11 (32%) have adequate fire-detection and -suppression systems in their collections storage areas, including smoke detectors and fire alarms, fire extinguishers, and sprinkler systems. Adequate fire detection does no good without adequate fire suppression, with the reverse is also true.

Pest Management

Thirty (88%) of the 34 storage locations control for pests on an as-needed basis or on a regularly scheduled plan (i.e., annually) by spraying, trap baiting, or other measures. Four of these 30 storage locations have implemented formal pest management programs (see Table 49) that include monitoring and control procedures for insects and small mammals. Four (12%) of the 34 storage locations take no precautions against pests whatsoever. It should be noted that the types of chemicals used for pest management, their frequency of use, and the attendant hazard to personnel and collections are beyond the scope of this report, but should be investigated.

Artifact Curation

Twenty-two installations and repositories house 700.9 ft^3 of military artifact collections subject to this project (Table 50). None of these has properly prepared the collections for long-term curation. Most collections have not been properly cleaned, labeled, or packaged. Only five of the long-term curation facilities employ full-time personnel for the curation of archaeological collections.

Most primary containers are acidic- or acid-free-cardboard boxes with telescoping lids, each with a volume of slightly more than 1 ft^3. Many are overpacked and coated with dust. Almost all boxes include some type of label, if only rudimentary.

Most (55%) of the collections, by volume, are stored in archival-quality, zip-lock polyethylene bags within primary containers. Twenty-two percent of the collections are stored loose, without secondary containers. Of the secondary containers most are labeled directly, although some have adhesive or interior paper labels. The wide variety of nonarchival secondary containers and the frequent lack of secondary containers will both contribute to the deterioration of these collections (Table 51).

Data were also collected regarding the major prehistoric and historical-period material classes (by volume) observed in each of the military collections (Table 52). Lithics are most abundant in the prehistoric collections. Principal historical-period material classes include glass, metal, and ceramics.

Human Skeletal Remains

Human skeletal remains and associated burial goods make up less than 1 percent (by volume) of the prehistoric material classes (see Table 52). A minimum number of two individuals (based on anatomical singularity) is included in the military collections. FLSHA is curating a minimum of two individuals recovered from

Table 50. Summary of Military Collections

Repository, by Installation (Subinstallation)	Volume of Artifacts (ft^3)	Associated Records (linear in.)
Aberdeen, Maryland		
Aberdeen	22.3	14.50
Goodwin	4.8	3.50
HCAS	26.0	3.00
MHT	1.2	—
Adelphi Labs, Maryland		
Foster Wheeler	1.4	14.00
HRA	—	9.00
USACE Baltimore District	16.0	1.50
Blossom Point		
GRI	—	15.75
UDCAR	2.7	0.25
HDL		
MHT	1.2	—
TAA	—	7.50
Woodbridge		
UDCAR	0.9	1.00
Bloodsworth Island NR, Maryland		
GRI	—	13.50
MHT	4.8	—
Fort Detrick, Maryland		
Fort Detrick	1.0	1.00
Goodwin	1.7	1.50
Fort Meade, Maryland		
Fort Meade	3.8	40.50
MHT	5.8	0.75
USACE Baltimore District	2.5	9.75
Fort Belvoir, Virginia		
FCAS	171.0	79.25
Fort Belvoir	—	55.00
Milner	2.9	5.00
MAAR	—	24.75
TAA	4.4	7.50
VCUARC	1.1	0.50
VDHR	—	0.5
Fort Eustis, Virginia		
JRIA	2.0	4.00
MAAR	—	29.00
VDHR	60.5	1.00
WMCAR	1.4	2.00
Fort Story		
SouthArc	1.0	—
VDHR	1.1	0.50
Fort Lee, Virginia		
G&P	15.6	23.75
MAAR	—	11.25
VDHR	14.3	3.50
WMCAR	1.4	1.50
Fort A. P. Hill, Virginia		
Fort A. P. Hill	44.2	13.00
G&P	3.2	12.00
MAAR	—	9.75
VCUARC	—	0.75
VDHR	1.1	1.25
WMCAR	1.4	1.00
Fort Monroe, Virginia		
Fort Monroe	98.0	—
VDHR	2.2	—
Fort Myer, Virginia		
UDCAR	0.9	0.75
Radford, Virginia		
FLSHA	14.5	2.00
WMCAR	5.5	5.00
Vint Hill, Virginia		
VCUARC	1.1	4.00
Warren AFB, Wyoming		
Warren AFB	156.0	628.00
Total	700.9	1,063.50 [a]

[a] 88.6 linear feet.

Table 51. Summary, by Volume, of Secondary Containers Used for Military Collections

Container Type	%
Archival zip-lock bags	55
Loose in box	22
Acidic-paper bags	7
Nonarchival plastic bags	6
Acid-free-construction-paper dividers	4
Small, acidic-cardboard boxes	2
Glass mason jars	1
Plastic cases	1
Wooden cases	1
Other[a]	1
Total	100

Note: Percentages were calculated by volume within primary containers.
[a] "Other" includes glass vials, plastic film containers, newspaper, manila envelopes, and aluminum foil.

Table 52. Summary, by Volume, of Material Classes Present in Military Collections

Material Class	%
Prehistoric	
Lithics	22
Faunal remains	3
Ceramics	2
Shell	2
Other[a]	2
Soil	1
Historical-period	
Glass	29
Metal	17
Ceramics	13
Brick	7
Other[b]	2
Total	100

[a] Prehistoric "other" includes human skeletal remains, worked bone and shell, botanical, flotation, and ^{14}C samples.
[b] Historical-period "other" includes leather, rubber, firearm flints, paper, charcoal, marble, coal, Styrofoam, wood, buttons, and plastic.

Radford. Fort A. P. Hill archaeological collections include one possibly human bone fragment. HCAS is curating about 1 ft^3 of human skeletal remains recovered on Aberdeen. The minimum number of individuals for these human skeletal remains is unknown. All human skeletal remains should be examined by a qualified physical anthropologist. The collections of remains should be completely rehabilitated (e.g., reboxed, rebagged, and labeled) to stabilize the remains, and a complete inventory must be generated to comply with NAGPRA.

Records Management

There are 88.6 linear feet of records associated with archaeological work conducted on military installations subject to this project. These include paper, photographic, map, and draft-report records.

Archival-quality protocols were observed at one of the evaluated facilities. In many cases, paper records have not been housed in acid-free folders, photographs have not been isolated and stored in chemically inert sleeves, and large-scale maps have not been stored flat in map cases. In few instances were collections accompanied by a complete set of associated documentation. Much documentation appears to have been misplaced over the years, or not curated with the artifacts after fieldwork was completed.

As discussed previously, six storage locations (18%) have air-conditioning, heat, and humidity monitors and controls employed. Records housed in the remaining 27 storage locations are subject to excessive temperature and humidity fluctuations. Archival materials readily absorb and release moisture, leading to expansion and contraction that accelerate deterioration and promote major visible damage such as cockling paper, flaking ink, warped covers on books, and cracked emulsion on photographs.

Collections-Management Standards

Four facilities have basic policy and procedure statements for artifact curation, inventories, records management, and deaccessioning. Five facilities have partial guidelines in place, and four do not have any collections-management standards at all. Therefore, most of the examined facilities entrusted with the care of the nation's heritage have no long-term plan for the management of these resources. This responsibility must be honored by federal managers as well, and failures to meet it must be corrected immediately. Failure to meet elementary curation needs and responsibilities has led to the substandard care of many of the military collections.

Prior to this collections assessment, the DoD was unfamiliar with the extent, location, or condition of its archaeological collections in the project-area states. Legacy personnel should be commended for recognizing this problem and addressing it, but now that specific deficiencies have been identified, action must be taken to protect these collections. At minimum, a plan of action for the long-term management of these military collections should implement the following five items.

1. Inventory all human skeletal remains to comply with NAGPRA.

2. Make the collections and their rehabilitation a priority.

3. Place collections in appropriate curation repositories in their areas of origin.

4. Inventory and rehabilitate the collections and associated documentation.

5. Develop an archives-management plan.

Implementation of these minimal tasks will contribute greatly to the preservation of materials essential to our understanding of the culture history of not only the Mid-Atlantic and Northwestern United States, but North America as a whole.

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Recommendations

The following general recommendations are submitted for bringing the evaluated military collections into compliance with the mandates of 36 CFR Part 79 and NAGPRA. To ensure maximum savings in cost to the military, compliance with 36 CFR Part 79 and NAGPRA should be undertaken together. A comprehensive plan for curation compliance includes the following points.

Develop a Plan of Action

A plan of action minimally must address four points—(1) long-term housing of the collections and records, (2) rehabilitation of the artifact collections, (3) rehabilitation of the associated records, and (4) management of these data.

Develop a Formal Archives-Management Program

A plan of action must be developed immediately to establish archives-deficiency priorities for military archaeological collections. Following this survey, all records should be brought together and rehabilitated to comply with federal regulations and modern archival-preservation standards. Archives rehabilitation should precede collections rehabilitation, because the documentation that the assessment team was able to locate is in the most immediate danger. Archives rehabilitation includes the following nine steps.

1. Inventory and catalog all associated records to standards consistent with those of a professional museum.

2. Using an appropriate professional staff, assess the condition of all records, and institute and carry out a long-term conservation program for appropriate records.

3. Conserve significant records that are currently at risk.

4. Transfer paper records into acid-free folders, labeled directly in indelible ink; store in acid-free primary containers, also labeled in indelible ink; and place in appropriate archival storage units.

5. Place photographs, negatives, and slides into archival, polyethylene sleeves; acid-free envelopes; and appropriate storage units.

6. Catalog and curate large-scale maps in metal map cases.

7. Produce duplicate or backup copies of associated records on acid-free paper that will be stored in a separate, secure location.

8. Develop an archives inventory-management program that uses microcomputer technology.

9. Remove all contaminants from the records.

Proper management of military archaeological archives will provide opportunities for scholars,

students, and the general public to benefit from the information contained in these records.

Inventory and Rehabilitate Existing Artifact Collections

Military collections should be assigned a priority based on physical condition, and the collections should be inventoried and rehabilitated to professional museum standards. Rehabilitation should include the following four steps.

1. Inventory and catalog all artifact collections to a standard consistent with those of a professional museum.

2. Label and package artifacts to one consistent standard, and place them in archivally stable containers.

3. Conduct a condition assessment of all perishable artifacts and implement a long-term conservation program for appropriate materials.

4. Develop a collections manual to aid in the management of archaeological collections.

These steps will result in the stabilization and preservation of existing collections and will ensure management of the collections in the most cost-efficient manner for the federal taxpayer. Proper management of these collections will ensure that scholars, students, and the general public have access to, and benefit from, the military archaeological collections, which currently do not approach their potential for use.

Comply with NAGPRA

NAGPRA compliance includes an examination of the military collections for human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony. It is not possible to provide a cost estimate for the task at this time; however, when a general survey of NAGPRA-related issues is completed, a realistic cost estimate can be produced. To satisfy the requirements of NAGPRA, the following tasks must be performed at the two known facilities—FLSHA and HCAS—holding military collections that include materials subject to NAGPRA. (It is not known if the bone fragment housed at Fort A. P. Hill is human.)

1. Conduct a records search of the collections to identify the accession and catalog numbers and the locations of human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony.

2. Perform a physical inspection of storage containers to identify human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony.

3. Conduct analyses of human skeletal remains that include:

a. a detailed skeletal inventory listing elements present, their completeness and conditions;

b. measurements of long bones and crania sufficient to provide basic descriptions of physical characteristics, stature, and morphology of individuals;

c. estimates of age and gender; and

d. observations of any pathological conditions, cultural modifications, and evidence of life activities and trauma that might provide evidence of cultural affiliation of the human skeletal remains or the contexts from which they were recovered.

4. Produce summary and inventory reports for each repository, which must be provided in order to comply with NAGPRA.

The summary (from Draft 4 of the NPS's NAGPRA guidelines) should include the following information:

a. information concerning unassociated funerary objects, sacred objects, and objects of cultural patrimony;

b. an estimate of the number of objects in the collection;

c. a description of the kinds of objects in the collection with, where readily ascertainable, reference to the means and dates of acquisition and locations from which the collections came; and

d. if available, information relevant to identifying lineal descendants and cultural affiliation.

The inventory (from Draft 4 of the NPS's NAGPRA guidelines) should contain the following information:

a. information concerning human skeletal remains and associated funerary objects;

b. an item-by-item list of all the human skeletal remains and associated funerary objects that are identified as being culturally affiliated with one or more present-day Native American tribes;

c. a list of all human skeletal remains and associated objects for which no present-day Native American tribe can be determined;

d. accession and catalog entries of the human skeletal remains with which funerary objects were associated;

e. if known, information related to the acquisition of each object, including the name of the person, organization, or both for whom the object was acquired, the means of acquisition, and the antiquity of the human skeletal remains and associated funerary objects; and

f. a description of each set of funerary remains and associated funerary objects, including dimensions, materials, and photographic documentation.

Bring Together Collections

A plan of action for the long-term care of collections and associated records must be adopted by the military. In this era of cost-effectiveness, the St. Louis District recommends bringing together collections at one regionally based, federally owned or leased repository constructed specifically for the curation and long-term management of archaeological collections. Another, less cost-effective option is to place the collections into existing facilities in their states of origin, or bring together collections into one regionally based existing facility, then spend the requisite funds to upgrade these facilities to meet federal curation standards and the regional differences in collections and management needs.

If the military chooses to bring together collections into an already-existing facility, information from this assessment should prove useful. Currently, only the curation facility at Warren AFB and the Casemate Museum on Fort Monroe meet all federal guidelines mandated by 36 CFR Part 79. The St. Louis District recommends the collections from the states of Maryland and Virginia be brought together at no more than two facilities; all facilities in the Mid-Atlantic region will require infrastructure-improvement funds to meet the standards of 36 CFR Part 79.

Develop Cooperative Agreements

To defray costs, the military is encouraged to develop cooperative agreements with other agencies to share the costs of building construction and collections rehabilitation. Cooperative agreements provide opportunities for joint ventures between and among federal agencies with similar curation requirements. The St. Louis District has long-term experience in this area and, if needed, could assist the military.

Dedicate Space for Storage of Collections

Following the adoption of a curation strategy, the military must develop a plan of action that identifies how their curation facility will function. Space must be dedicated strictly for curating archaeological collections and associated records. Office, research, and work areas must be separate from collections storage areas. Using space for both storage and work is not acceptable. Minimal curation standards include the following five points.

1. Stable temperature and humidity levels should be maintained in storage spaces, and environmental requirements for the types of objects being curated within the storage spaces should be met.

2. The number of exterior walls, windows, and doors in storage space should minimized to

a. decrease the chance of condensation on walls and windows during seasonal temperature changes,
b. enhance security, and
c. increase energy efficiency.

3. Water lines associated with fire-suppression systems are the only overhead pipes allowed in collections storage areas. Water and sewer pipes should be removed.

4. Electrical-junction boxes and gas and electric meters should be outside collections storage areas in order to limit access to collections.

5. Storage areas should be large enough to accommodate existing collections as well as projected needs.

Security, Fire Safety, and Maintenance of Collections Storage Areas

A collections storage facility must maintain measures for security, fire safety, and maintenance of collections storage areas that minimally incorporate the following.

Security

Entrances to collections storage areas should have metal or solid-core, wood doors. Doors should have key and dead bolt locks, and the collections storage areas should be further protected by an electronic intrusion-detection system. Keys to collections storage areas must be restricted to repository personnel. All cabinets housing archaeological collections should be kept locked, unless items are being accessed by staff members. Researchers and visitors should not be allowed access to collections storage areas unless accompanied by curatorial staff members. When researchers or other visitors request to work with objects, it is best that the objects be taken to an area separate and outside the collections storage areas.

Fire Safety

Fire-detection and -suppression systems must be installed to safeguard collections and personnel. Smoke detectors must be placed in all parts of collections storage areas. The appropriate types and number of fire extinguishers, in relation to the types of collections and the overall size of the collections storage area, must be properly maintained and placed in clearly marked positions within collections storage areas. Sprinkler systems should be installed throughout the facility, including collections storage areas.

Maintenance of Facility

A scheduled plan for maintenance must be established for collections storage areas. Maintenance activities should include routine sweeping, mopping, and dusting by curatorial staff or a contracted janitorial service. An integrated pest-management program should be implemented, including regular monitoring for signs of pest infestation. Smoking, eating, and drinking must be forbidden in collections storage areas.

Full-Time Manager for Archaeological Collections

It is imperative that a full-time collections manager be hired to care for the archaeological collections. This person should have professional qualifications and prior experience in collections management. Collections managers minimally are responsible for the following seven tasks.

1. Ensure that adequate written policies and procedures are in place and shared so that staff have appropriate guidance.

2. Ensure that management records are kept up-to-date, complete, properly monitored, and readily available to researchers.

3. Manage a computerized database.

4. Ensure that artifacts can be located easily.

5. Ensure that objects are properly labeled.

6. Ensure that artifacts and records are maintained under physically secure conditions, whether in storage, on exhibit, or under study.

7. Perform periodic inventories and inspections of collections and records to ensure their long-term survival.

The St. Louis District regards all the aforementioned recommendations as minimal tasks that must be addressed in order to bring military collections into compliance with federal standards of archaeological curation.

Conclusions

The military has been entrusted with important collections of prehistoric and historical-period artifacts. Its trust lands today occupy areas of great importance in the history of this country. Our knowledge of Native American prehistory, American history, and of Euroamerican–Native American interactions may benefit from these military collections. The United States citizenry trusts that its national heritage will be preserved for future generations. The adequate curation of military archaeological collections will be an important contribution to the preservation of that heritage.

APPENDIX

References for Military Installations without Archaeological Collections

Cameron Station

KFS Historic Preservation Group
1992 *Cameron Station, Alexandria, Virginia, Cultural Resource Investigation Report.* KFS Preservation Group, Philadelphia, Pennsylvania. Submitted to the U.S. Army, Military District of Washington.

Fort Ritchie

Dames & Moore Eastern Division
1994 *Fort Ritchie—Annex to Real Property Mater Plan, Draft Cultural Resources Management Plan and Historic Property Rehabilitation Guidelines Volume I.*